

December 29, 2015

Mr. Donald Heller  
Regional PCB Coordinator  
US EPA Region V  
77 W. Jackson Blvd.  
Chicago, IL 60604

Re: 2015 Polychlorinated Biphenyl Action Summary Report  
Bodycote Thermal Processing  
1975 N. Ruby Street  
Melrose Park, IL 60160  
Mabbett Project No.: 1998002.333

Dear Mr. Heller:

On behalf of Bodycote Thermal Processing (Bodycote), Mabbett & Associates, Inc. (Mabbett®) has prepared the enclosed 2015 Annual Polychlorinated Biphenyl Action Summary Report for the facility located at 1975 North Ruby Street in Melrose Park, Illinois.

The 2015 PCB Action Summary Report for the Heat Treat Building is attached for your review and consideration. If you have any questions or require any further action, please do not hesitate to contact me at (781) 275-6050 ext. 311.

Very truly yours,

**MABBETT & ASSOCIATES, INC.**  
BY:



Christopher L. Mabbett, CPG, PG, PMP  
Director of Operations  
cmabbett@mabbett.com

PDS/rdl

Enclosure: 2015 Annual Polychlorinated Biphenyl Action Summary Report dated December 29, 2015

cc: Thomas Anderson (Bodycote Thermal Processing)  
Mark Bumba (Bodycote Thermal Processing)  
Tim Zook (IEPA)  
(MF)



## ANNUAL POLYCHLORINATED BIPHENYL ACTION SUMMARY REPORT

Project No. 1998002.333  
December 29, 2015

Prepared for:

**Bodycote**

Bodycote Thermal Processing  
1975 North Ruby Street  
Melrose Park, Illinois

Mabbett & Associates, Inc.  
5 Alfred Circle  
Bedford, MA 01730-2318  
T. 800-877-6050

Massachusetts | Virginia | Rhode Island | New Jersey

© 2015, Mabbett & Associates, Inc.

ACKNOWLEDGEMENT

This *Annual Polychlorinated Biphenyl Action Summary Report* for the Site located at 1975 North Ruby Street in Melrose Park, Illinois has been prepared for the sole and exclusive use of Bodycote Thermal Processing, Inc. This report is subject to and issued in connection with the Letter-Agreement dated June 30, 2015. Any use or reliance upon information provided in this report, without the specific written authorization of Bodycote Thermal Processing, Inc. and Mabbett & Associates, Inc. shall be at the User's sole risk. No attempt has been made to assess the compliance status of any past or present Owner or Operator of the Property with any Federal, state, or local laws or regulations except as described herein with respect to this particular project.

The findings, observations, and conclusions presented in this report, including the extent of subsurface explorations and other tests, are limited by the scope of services outlined in our Letter-Agreements which reflect schedule and budgetary constraints. The professional opinions and findings presented in this report are based on the facts and information conveyed to or observed by Mabbett & Associates, Inc. during completion of this project. Furthermore, assessment and field operations have been performed in accordance with generally accepted engineering practices. No other warranty, expressed or implied, is made.

The assessment presented in this report is based solely upon the laws and regulations existing as of the date of this report as well as the information gathered to date including a limited number of subsurface explorations made on the dates indicated and performed by others. Should further environmental or other relevant information be developed at a later date, Bodycote Thermal Processing, Inc. should bring such information to the attention of Mabbett & Associates, Inc. as soon as possible. Based upon an evaluation, Mabbett & Associates, Inc. may modify this report and its conclusions.

This report was prepared by the following Mabbett & Associates, Inc. personnel:



Michael J. Horton, CAPM  
Environmental Geologist

This report has been reviewed and approved by:

MABBETT & ASSOCIATES, INC.

BY:



Christopher L. Mabbett, CPG, PG, PMP  
Director of Operations

**TABLE OF CONTENTS**

<b><u>SECTION</u></b>	<b><u>PAGE</u></b>
I. INTRODUCTION	1
II. DISPOSAL SITE DESCRIPTION	1
III. SITE HISTORY	1
IV. PCB ACTIONS	3
A. PCB Storage Area .....	3
B. Groundwater Sampling.....	4
V. NATURE AND EXTENT OF PCB CONTAMINATION	4
VI. SUMMARY	5
VII. FURTHER EXPLORATION/REMEDIAL ACTIONS	5

**TABLES**

1	Summary of Laboratory Analytical Results
---	--

**CHARTS**

1	Historic PCB Aroclor 1248 Concentrations
---	--

**FIGURES**

L-1a	Site Locus
L-1b	Site Map
L-2	Monitoring Well Location Plan
L-3	Heat Treat Building Area of PCB Contamination – April/October 2015
L-4	Heat Treat Building Shallow Groundwater Contours – October 2015

**APPENDICES**

A	Laboratory Analytical Reports – April and October 2015
---	--

## **I. INTRODUCTION**

Mabbett & Associates, Inc. (Mabbett®) has prepared this Annual Polychlorinated Biphenyl (PCB) Action Summary Report on behalf of our client, Bodycote Thermal Processing, Inc. (Bodycote), for the Site located at 1975 North Ruby Street in Melrose Park, Illinois. This summary report has been prepared in accordance with 40 CFR 761, the Polychlorinated Biphenyl Action/Work Plan dated September 12, 2006, and the Polychlorinated Biphenyl Action/Work Plan Amendment letter approved by EPA on March 1, 2010.

The presence of PCB contamination in groundwater and non-aqueous phase liquid (NAPL) beneath a portion of the Bodycote facility was identified in 2000. Source investigations and analytical sampling that define the nature and extent of PCB contamination have been ongoing since that time. The following sections discuss the data collected and PCB actions taken during 2015 as part of the Site's approved PCB Action/Work Plan.

## **II. DISPOSAL SITE DESCRIPTION**

The Bodycote facility is an industrial complex located at 1975 North Ruby Street in Melrose Park, Illinois. The facility was constructed in the 1950s and has been the site of heat treating operations since that time. The property is located in an industrial zoned area and is planned for continued use as a manufacturing facility into the foreseeable future. A Site Locus, Site Map, and a Monitoring Well Location Plan are provided as Figures L-1a, L-1b, and L-2, respectively.

## **III. SITE HISTORY**

The presence of PCBs beneath the Bodycote Heat Treatment Building (HTB) was discovered in May 2000 during routine profiling of groundwater and dense non-aqueous phase liquid (DNAPL) associated with remedial efforts designed to remove free product from groundwater monitoring well M&A-113 (refer to Figure L-2). Of the nine drums that were profiled for off-site disposal, eight had detectable concentrations of Aroclor 1248 ranging from 341 milligrams per kilogram (mg/kg) to 516 mg/kg. These detections were above applicable state and federal standards for PCBs.

In response to the May 2000 PCB detections, Mabbett initiated an in-depth review of available documentation for the property in order to identify potential sources of PCB contamination at the Site. Mabbett reviewed records at the Bodycote facility, the State Fire Marshall, the Village of Melrose Park Fire Department, the Village of Melrose Park Building Department, and Village of Melrose Park Health Office; however, no records were located which documented PCB use, spills, or the presence of PCB containing equipment at the Site. Bodycote personnel were also interviewed to determine if they had knowledge of historic PCB spills or PCB containing equipment at the facility: no known PCB spills or PCB containing equipment was identified during these inquiries.

During September 2000, Mabbett sampled non-aqueous phase liquid (NAPL) occurring in monitoring wells M&A-113 and M&A-111; those samples were analyzed for PCBs. Laboratory results indicated the presence of Aroclor 1248 at concentrations of 1,600 mg/kg and 3,308 mg/kg, respectively. After further corroboration of laboratory results, Mabbett performed a groundwater sampling event in October 2002. Samples were collected from seven monitoring wells located in the HTB and submitted for laboratory analysis of PCBs in

accordance with United States Environmental Protection Agency (EPA) Test Method 8082.

PCBs were detected in groundwater samples collected from four of the seven monitoring wells. PCBs were reported at concentrations between 1.6 micrograms per liter ( $\mu\text{g/L}$ ) and 600  $\mu\text{g/L}$ . The Illinois Environmental Protection Agency (IEPA) TACO Tier I Class II (restricted use) groundwater standard for PCBs is 2.5  $\mu\text{g/L}$ .

Between 2002 and 2006, Mabbett conducted additional groundwater and NAPL sampling in an effort to obtain additional data. This data was used to formulate a PCB Action/Work Plan. During these sampling events, EPA Region I low flow/stress sampling techniques were used in an effort to reduce turbidity in samples; this allowed the field team to obtain more representative samples for evaluating dissolved PCB concentrations in groundwater. The analytical results from samples obtained following low flow sampling procedures were significantly lower. The results of historic PCB sampling events are summarized in Table 1. NAPL recovery efforts initiated at the Site under the IEPA Voluntary Cleanup Program (VCP) are removing TCE from the subsurface and may also be contributing to the lower PCB concentrations observed during recent sampling events.

In October 2005, Mabbett contacted Ms. Pricilla Fonseca (Region V EPA) to inquire about the actions necessary to address the identified PCBs at the facility. Ms. Fonseca informed Mabbett that Bodycote needed to file a "Notice of PCB Activity" (Form #7710-53) and a PCB Action/Work Plan with the EPA. Form #7710-53 was filed on November 8, 2005. A PCB Action/Work Plan was submitted on September 12, 2006 and proposed the following:

- Install additional monitoring wells in the northwest region of the HTB and outside the northwestern wall of the HTB to confirm the extent of PCB contamination;
- Continue NAPL recovery efforts initiated under the IEPA approved VCP; continued removal of light non-aqueous phase liquid (LNAPL) and DNAPL was expected to result in further reductions in PCB concentrations at the Site;
- Maintain constructed engineered barriers, utilizing existing concrete slab flooring, over areas of residual soil impacts to eliminate potential exposure; and
- Conduct ongoing periodic training of Bodycote personnel in appropriate PCB waste management procedures.

On November 15, 2006, Mabbett personnel oversaw the advancement of three soil borings in and around the northwestern portion of the HTB for the purpose of delineating the extent of PCBs. The soil borings were advanced by Precon Drilling, Inc. of Addison, Illinois using hollow stem auger drilling techniques. The soil borings were completed with 2-inch diameter monitoring wells and designated M&A-130, M&A-131, and M&A-133 (refer to Figure L-2).

Monitoring wells M&A-130 and M&A-131 are located outside of the Heat Treat Building along Ruby Street. The soil boring for shallow monitoring well M&A-130 was advanced to a depth of 16 feet below ground surface (bgs); the well was constructed with a 10-foot screen set between 5 and 15 feet bgs. The soil boring for Intermediate monitoring well M&A-131 was advanced to 30 feet bgs; the well was constructed with a 10-foot screen set between 19 and 29 feet bgs. Soils encountered during the advancement of these monitoring wells were generally clays with some silt and gravel. Visual or olfactory indicators of contamination were not

observed in either of the boreholes located outside the Heat Treat Building.

Monitoring well M&A-133 is located in the northwest corner of the Heat Treat Building. The soil boring for intermediate monitoring well M&A-133 was advanced to 30 feet bgs; this monitoring well is screened between 19 and 29 feet bgs. Soils encountered during advancement of this boring consisted of approximately 9 feet of fill material underlain by clays. Visual and olfactory screening of the soils did not indicate the presence of contaminants.

Mabbett collected groundwater samples from newly installed monitoring wells M&A-131 and M&A-133 (designated Outside-I and Inside-I, respectively on the laboratory report) on December 19, 2006. Monitoring well M&A-130 could not be sampled due to the lack of groundwater recharge into the well. Groundwater samples were submitted to TestAmerica Analytical Testing Corporation (TestAmerica) of Nashville, Tennessee for analysis of PCBs in accordance with EPA Test Method 8082. PCBs were not detected at concentrations greater than laboratory reporting limits in groundwater samples collected from monitoring wells M&A-131 and M&A-133.

PCB actions taken at the Bodycote facility since the submittal of the PCB Action Summary Report in December 2015 are summarized in the following sections.

#### **IV. PCB ACTIONS**

##### **A. PCB Storage Area**

In accordance with 40 CFR 761.65, Bodycote is required to have a hazardous waste storage area at the facility that is designed for PCB wastes if waste materials contain 50 parts per million (ppm) or greater of PCBs. A waste accumulation area has been established in the HTB. The accumulation area generally contains two 55-gallon drums; one for NAPL containing materials such as absorbent socks and bailers used for manual product removal and one for DNAPL extracted from monitoring well M&A-113. The drums are situated on secondary containment pallets with a storage capacity greater than 55-gallons. When these drums are full they are moved to the Hazardous Waste Storage Area and labeled with the applicable waste codes and the words "CONTAINS PCBs" on a hazardous waste label. All PCB containing wastes at the Bodycote facility are disposed of within 90 days of their storage start date in accordance with 40 CFR 761.65.

One drum of remediation waste was disposed of in 2015. During the groundwater sampling event in October 2015, the 55-gallon drum attached to the M&A-113 DNAPL recovery system was observed to be full. The DNAPL Recovery System was shut down on October 28 and 29, 2015 so the full drum could be removed and replaced with an empty new 55-gallon drum. The new drum was labeled with the applicable waste codes and the words "CONTAINS PCBs" on a hazardous waste label; then the drum was attached to the DNAPL recovery system. The system was then restarted and checked to ensure it was operational. The full 55-gallon drum was moved to the Hazardous Waste Storage area and checked to ensure all the appropriate waste codes and the words "CONTAINS PCBs" were on the hazardous waste label while it awaited proper disposal. Clean Harbors is scheduled to pick up the drum for appropriate disposal during the week of January 4, 2016, prior to the 90 day storage limit; details pertaining to the removal will be included in the 2016 Annual PCB Report. The waste accumulation area was inspected

periodically throughout 2015 (most recently during a December maintenance visit). Currently two 55-gallon drums are present in the accumulation area; one drum contains waste from the DNAPL recovery system and the second drum contains NAPL contaminated material (i.e. oil absorbent socks).

## **B. Groundwater Sampling**

Groundwater samples collected from thirteen (13) different monitoring wells were analyzed for PCBs during the two (2) routine semi-annual sampling events. Sampling was conducted in accordance with the EPA PCB Action/Work Plan approval letter dated March 1, 2010. Mabbett personnel were able to sample all wells that are listed in the U.S. EPA's March 1, 2010, letter.

Table 1 and Chart 1 present historic and current PCB data for all wells identified in the U. S. EPA March 1, 2010 approval letter. Previously submitted Annual PCB reports contain historic PCB data for groundwater and NAPL samples collected from wells not listed in the March 1, 2010, EPA approval letter.

In general, concentrations of PCBs detected at the Site have decreased significantly since their discovery in May 2000. Additional discussion regarding the nature and extent of PCBs in groundwater at the Bodycote facility is provided in Section V.

## **V. NATURE AND EXTENT OF PCB CONTAMINATION**

Based on recent PCB data for the HTB (provided in Table 1 and Chart I), PCBs appear to be limited to groundwater in the vicinity of monitoring wells M&A-110, M&A-111, M&A-113, and M&A-114 (it should be noted that PCBs have not been detected in M&A-104 since April of 2011). As indicated in Table 1, detected concentrations of PCBs in groundwater beneath the HTB have been below the IEPA TACO Tier I Class II (restricted use) Groundwater Standard of 2.5 µg/L in samples collected from many monitoring wells since the spring of 2006 sampling event. The only monitoring wells that sample results indicate PCBs are present above the standard are M&A-110, M&A-111, M&A-113, and M&A-114. Until the most recent sampling event in October 2015, groundwater monitoring well M&A-110 had been well below the IEPA TACO Tier I Class II Groundwater Standard. Historically, M&A-111 has been below the Groundwater Standard with a few exceptions; PCBs were detected at concentrations greater than the Groundwater Standard in the sample collected during the October 2015 sampling event for the first time since April 2013. Groundwater monitoring well M&A-113 has been consistently above the Standard but appears to be decreasing over time. Aroclor 1248 was detected in the sample collected from M&A-114 in April 2015 but was non-detect in the sample collected during the October 2015 event. The full laboratory reports for the April and October 2015 groundwater sampling events are attached in Appendix A.

Figure L-3 depicts the area of PCB groundwater contamination beneath the HTB in 2015. PCBs were detected in samples collected from only four wells at levels greater than the IEPA GRO in 2015; M&A-110 at a concentration of 10.1 µg/L in October 2015, M&A-111 at a concentration of 7 µg/L in October 2015, M&A-113 at a concentration of 238 µg/L and 17.2 µg/L in April and October 2015 respectively; and M&A-114 at a concentration of 79.3 µg/L in April 2015. Monitoring well M&A-113 is the location of the DNAPL extraction system which could account for the elevated PCB concentrations observed in samples collected from this monitoring well.



The absence of PCBs in groundwater at downgradient boundary wells M&A-122 and M&A-301 indicates that the likelihood for migration of PCB contaminated groundwater in a westerly direction off the property is unlikely (refer to Figure L-4 Heat Treat Building Shallow Groundwater Contours).

## VI. SUMMARY

Groundwater samples have been collected from monitoring wells throughout the HTB and analyzed for PCBs since 2002. The distribution of PCB contamination has been defined as a limited area beneath a portion of the HTB where NAPL is present. Dissolved concentrations of PCBs in groundwater have declined significantly since the discovery of PCBs at the Site in 2000 and, with the exception of wells M&A-110, M&A-111, M&A-112, M&A-113, and M&A-114, have been below applicable IEPA TACO Tier I Standards since 2006.

NAPL recovery efforts in the Heat Treat Building are ongoing at monitoring well M&A-113 and M&A-114 and appear to have reduced the occurrence of DNAPL and PCBs in this portion of the Site. Continuing to remove free product to the extent practicable in these areas appears to be the most effective means of achieving additional PCB reductions in groundwater present beneath the Heat Treat Building.

## VII. ADDITIONAL EXPLORATION/REMEDIAL ACTIONS

Based on the information collected to date, Mabbett recommends continued NAPL removal as the primary course of action for reducing PCB contamination at the Site. The *in situ* DNAPL extraction system located in well M&A-113 will continue to operate on a full-time basis in accordance with the VCP established for the HTB.

During the April and October 2015 sampling events Mabbett observed LNAPL on the oil absorbent media deployed in well M&A-114 and trace LNAPL staining on the oil absorbent media in well M&A-301. New oil absorbent media was deployed in each well after each sampling event. Mabbett will continue to monitor M&A-114 and M&A-301 for the presence of LNAPL. At such a time when LNAPL is absent for a period of one year the IEPA approved LNAPL product recharge study will re-commence. Once the study is completed if LNAPL remains absent for a period of one year *No Further Remediation* status may be applied for in regards to oil absorbent media deployment with the IEPA.

Mabbett will continue to perform long term groundwater monitoring to coincide with the April and October semi-annual sampling events established under the VCP. PCB Summary Reports will be submitted to the EPA on an annual basis until such time that a status of *No Further Remediation* has been issued for PCB contamination at the Site.

Based on the information presented herein, it is Mabbett's opinion that:

1. No active PCB release sources are present and, after diligent research, historic sources for PCBs were not identified.
2. The presence of PCBs appears to be associated with DNAPL and is limited in extent.
3. Groundwater quality appears to meet the IEPA standard for PCBs of 2.5 µg/L outside a limited and well-defined area.

4. The extent of PCBs in the subsurface has been reasonably delineated.
5. PCBs do not appear to be migrating and based on site data, the potential for significant PCB migration is low.
6. Ongoing efforts to remove NAPL under the approved IEPA VCP also appear to be the most appropriate remediation strategy for PCBs.
7. No additional investigation or remediation appears warranted at this time; Mabbett will continue to monitor as stated previously.

# TABLES

TABLE 1

TABLE 2

TABLE 3

TABLE 4

TABLE 5

## **TABLES**

**TABLE 1**  
**HISTORIC AND CURRENT PCB RESULTS SUMMARY**  
**2015 ANNUAL PCB REPORT**  
**BODYCOTE THERMAL PROCESSING**  
**MELROSE PARK, IL**

GW Samples			Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260
IEPA TACO Tier I Standard			2.5	2.5	2.5	2.5	2.5	2.5	2.5
WELL	AQUIFER	DATE	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
MCA-5	Shallow	Historic data not presented; historic data indicates that PCBs have not been present at concentrations greater than laboratory reporting limits in historic groundwater samples collected from MCA-5.							
		4/7/2015	BDL (0.1)	BDL (0.1)	BDL (0.1)	BDL (0.1)	BDL (0.1)	BDL (0.1)	BDL (0.1)
		10/28/2015	BDL (0.521)	BDL (0.521)	BDL (0.521)	BDL (0.521)	BDL (0.521)	BDL (0.521)	BDL (0.521)
M&A-104	Shallow	10/02/2002	BDL (0.5)	BDL (1.0)	BDL (0.5)	1.6	BDL (0.5)	BDL (0.5)	BDL (0.5)
		10/23/2003	BDL (0.5)	BDL (1.0)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)
		5/18/2004	BDL (0.5)	BDL (1.0)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)
		4/17/2006	BDL (1.0)	BDL (1.0)	BDL (1.0)	BDL (1.0)	BDL (1.0)	BDL (1.0)	BDL (1.0)
		10/19/2006	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)
		4/30/2007	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)
		10/17/2007	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)
		4/16/2008	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)
		10/23/2008	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	0.592	BDL (0.5)	BDL (0.5)
		12/17/2008	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)
		4/07/2009	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)
		10/21/2009	BDL (0.5)	BDL (0.5)	BDL (0.5)	0.716	BDL (0.5)	BDL (0.5)	BDL (0.5)
		4/12/2010	BDL (0.658)	BDL (0.658)	BDL (0.658)	1.66	BDL (0.658)	BDL (0.658)	BDL (0.658)
		10/19/2010	BDL (0.490)	BDL (0.490)	BDL (0.490)	BDL (0.490)	BDL (0.490)	BDL (0.490)	BDL (0.490)
		4/20/2011	BDL (0.556)	BDL (0.556)	BDL (0.556)	BDL (0.556)	0.911	BDL (0.556)	BDL (0.556)
		10/25/2011	BDL (0.495)	BDL (0.495)	BDL (0.495)	BDL (0.495)	BDL (0.495)	BDL (0.495)	BDL (0.495)
		4/25/2012	BDL (0.485)	BDL (0.485)	BDL (0.485)	BDL (0.485)	BDL (0.485)	BDL (0.485)	BDL (0.485)
		10/01/2012	BDL (0.485)	BDL (0.485)	BDL (0.485)	BDL (0.485)	BDL (0.485)	BDL (0.485)	BDL (0.485)
		4/18/2013	BDL (0.495)	BDL (0.495)	BDL (0.495)	BDL (0.495)	BDL (0.495)	BDL (0.495)	BDL (0.495)
		10/21/2013	BDL (0.481)	BDL (0.481)	BDL (0.481)	BDL (0.481)	BDL (0.481)	BDL (0.481)	BDL (0.481)
		4/01/2014	BDL (0.431)	BDL (0.431)	BDL (0.431)	BDL (0.431)	BDL (0.431)	BDL (0.431)	BDL (0.431)
		10/28/2014	BDL (0.431)	BDL (0.431)	BDL (0.431)	BDL (0.431)	BDL (0.431)	BDL (0.431)	BDL (0.431)
		4/07/2015	BDL (0.1)	BDL (0.1)	BDL (0.1)	BDL (0.1)	BDL (0.1)	BDL (0.1)	BDL (0.1)
		10/28/2015	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)
M&A-110	Intermed	5/18/2004	BDL (0.5)	BDL (1.0)	BDL (0.5)	BDL (0.5)	12.2	BDL (0.5)	BDL (0.5)
		4/17/2006 <sup>(1)</sup>	NS	NS	NS	NS	NS	NS	NS
		5/15/2006	BDL (0.4)	BDL (0.4)	BDL (0.4)	5.92	BDL (0.4)	BDL (0.4)	BDL (0.4)
		10/19/2006	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	1.31	BDL (0.5)	BDL (0.5)
		4/30/2007	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)
		10/17/2007	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	1.11	BDL (0.5)	BDL (0.5)
		10/23/2008	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	0.848	BDL (0.5)	BDL (0.5)
		4/07/2009	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)
		10/21/2009	BDL (0.5)	BDL (0.5)	BDL (0.5)	0.508	BDL (0.5)	BDL (0.5)	BDL (0.5)
		4/12/2010	BDL (0.658)	BDL (0.658)	BDL (0.658)	BDL (0.658)	2.31	BDL (0.658)	BDL (0.658)
		10/19/2010	BDL (0.495)	BDL (0.495)	BDL (0.495)	BDL (0.495)	0.842	BDL (0.495)	BDL (0.495)
		4/20/2011	BDL (0.556)	BDL (0.556)	BDL (0.556)	BDL (0.556)	1.98	BDL (0.556)	BDL (0.556)
		10/25/2011	BDL (0.500)	BDL (0.500)	BDL (0.500)	BDL (0.500)	2.10	BDL (0.500)	BDL (0.500)
		4/25/2012	BDL (0.556)	BDL (0.556)	BDL (0.556)	BDL (0.556)	BDL (0.556)	BDL (0.556)	BDL (0.556)
		10/02/2012	BDL (0.500)	BDL (0.500)	BDL (0.500)	BDL (0.500)	1.45	BDL (0.500)	BDL (0.500)
		4/18/2013	BDL (0.500)	BDL (0.500)	BDL (0.500)	BDL (0.500)	BDL (0.500)	BDL (0.500)	BDL (0.500)
		10/21/2013	BDL (0.417)	BDL (0.417)	BDL (0.417)	BDL (0.417)	BDL (0.417)	BDL (0.417)	BDL (0.417)
		4/1/2014	BDL (0.446)	BDL (0.446)	BDL (0.446)	BDL (0.446)	BDL (0.446)	BDL (0.446)	BDL (0.446)
		10/28/2014	BDL (0.431)	BDL (0.431)	BDL (0.431)	BDL (0.431)	BDL (0.431)	BDL (0.431)	BDL (0.431)
		4/7/2015	BDL (0.1)	BDL (0.1)	BDL (0.1)	BDL (0.1)	2.13	BDL (0.1)	BDL (0.1)
		10/28/2015	BDL (0.521)	BDL (0.521)	BDL (0.521)	BDL (0.521)	10.1	BDL (0.521)	BDL (0.521)

**TABLE 1**  
**HISTORIC AND CURRENT PCB RESULTS SUMMARY**  
**2015 ANNUAL PCB REPORT**  
**BODYCOTE THERMAL PROCESSING**  
**MELROSE PARK, IL**

GW Samples			Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260
IEPA TACO Tier I Standard			2.5	2.5	2.5	2.5	2.5	2.5	2.5
WELL	AQUIFER	DATE	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
M&A-111	Intermed	10/02/2002	BDL (25)	BDL (50)	BDL (25)	BDL (25)	BDL (25)	BDL (25)	BDL (25)
		10/23/2003	BDL (0.5)	BDL (1.0)	BDL (0.5)	BDL (0.5)	3.73	BDL (0.5)	BDL (0.5)
		5/18/2004	BDL (0.5)	BDL (1.0)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)
		4/18/2006	BDL (1.0)	BDL (1.0)	BDL (1.0)	BDL (1.0)	BDL (1.0)	BDL (1.0)	BDL (1.0)
		10/19/2006	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)
		4/30/2007	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)
		10/18/2007	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	0.652	BDL (0.5)	BDL (0.5)
		4/16/2008	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)
		10/22/2008	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	1.16	BDL (0.5)	NS
		12/17/2008	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)
		4/07/2009	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)
		10/21/2009	BDL (0.5)	BDL (0.5)	BDL (0.5)	0.712	BDL (0.5)	BDL (0.5)	BDL (0.5)
		4/12/2010	BDL (0.625)	BDL (0.625)	BDL (0.625)	1.14	BDL (0.625)	BDL (0.625)	BDL (0.625)
		10/19/2010	BDL (0.490)	BDL (0.490)	BDL (0.490)	BDL (0.490)	BDL (0.490)	BDL (0.490)	BDL (0.490)
		4/20/2011	BDL (0.556)	BDL (0.556)	BDL (0.556)	BDL (0.556)	2.35	BDL (0.556)	BDL (0.556)
		10/25/2011	BDL (0.495)	BDL (0.495)	BDL (0.495)	BDL (0.495)	1.05	BDL (0.495)	BDL (0.495)
		4/24/2012	BDL (0.500)	BDL (0.500)	BDL (0.500)	BDL (0.500)	BDL (0.500)	BDL (0.500)	BDL (0.500)
		10/02/2012	BDL (0.500)	BDL (0.500)	BDL (0.500)	BDL (0.500)	3.12	BDL (0.500)	BDL (0.500)
		4/18/2013	BDL (2.000)	BDL (2.000)	BDL (2.000)	BDL (2.000)	18.3	BDL (2.000)	BDL (2.000)
		10/21/2013	BDL (0.446)	BDL (0.446)	BDL (0.446)	BDL (0.446)	BDL (0.446)	BDL (0.446)	BDL (0.446)
		4/1/2014	BDL (0.500)	BDL (0.500)	BDL (0.500)	BDL (0.500)	BDL (0.500)	BDL (0.500)	BDL (0.500)
		10/28/2014	BDL (0.431)	BDL (0.431)	BDL (0.431)	BDL (0.431)	BDL (0.431)	BDL (0.431)	BDL (0.431)
		4/7/2015	BDL (0.1)	BDL (0.1)	BDL (0.1)	BDL (0.1)	BDL (0.1)	BDL (0.1)	BDL (0.1)
		10/28/2015	BDL (0.521)	BDL (0.521)	BDL (0.521)	BDL (0.521)	7.08	BDL (0.521)	BDL (0.521)
M&A-112	Shallow	10/02/2002	BDL (0.5)	BDL (1.0)	BDL (0.5)	5.9	BDL (0.5)	2.8	BDL (0.5)
		10/23/2003	BDL (1.0)	BDL (2.0)	BDL (1.0)	BDL (1.0)	17.7	9.04	BDL (1.0)
		5/18/2004	BDL (0.5)	BDL (1.0)	BDL (0.5)	BDL (0.5)	13.3	BDL (0.5)	BDL (0.5)
		4/18/2006	BDL (1.0)	BDL (1.0)	BDL (1.0)	BDL (1.0)	BDL (1.0)	BDL (1.0)	BDL (1.0)
		10/19/2006 <sup>(2)</sup>	NS	NS	NS	NS	NS	NS	NS
		5/01/2007	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)
		10/18/2007	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	1.99	BDL (0.5)	BDL (0.5)
		4/16/2008	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)
		10/23/2008	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	1.02	BDL (0.5)	BDL (0.5)
		4/07/2009	BDL (0.5)	BDL (0.5)	BDL (0.5)	1.39	BDL (0.5)	BDL (0.5)	BDL (0.5)
		10/21/2009	BDL (0.5)	BDL (0.5)	BDL (0.5)	1.04	BDL (0.5)	BDL (0.5)	BDL (0.5)
		4/13/2010	BDL (0.658)	BDL (0.658)	BDL (0.658)	BDL (0.658)	2.73	BDL (0.658)	BDL (0.658)
		10/19/2010	BDL (0.490)	BDL (0.490)	BDL (0.490)	BDL (0.490)	3.12	BDL (0.490)	BDL (0.490)
		4/20/2011	BDL (0.526)	BDL (0.526)	BDL (0.526)	BDL (0.526)	4.15	BDL (0.526)	BDL (0.526)
		10/25/2011	BDL (0.485)	BDL (0.485)	BDL (0.485)	BDL (0.485)	4.00	BDL (0.485)	BDL (0.485)
		4/25/2012	BDL (0.500)	BDL (0.500)	BDL (0.500)	BDL (0.500)	0.885	BDL (0.500)	BDL (0.500)
		10/01/2012	BDL (<5.0)	BDL (<5.0)	BDL (<5.0)	BDL (<5.0)	106	BDL (<5.0)	BDL (<5.0)
		11/05/2012	BDL (5.0)	BDL (5.0)	BDL (5.0)	BDL (5.0)	BDL (<0.495)	BDL (5.0)	BDL (5.0)
		4/18/2013	BDL (0.467)	BDL (0.467)	BDL (0.467)	BDL (0.467)	2.39	BDL (0.467)	BDL (0.467)
		10/21/2013	BDL (0.481)	BDL (0.481)	BDL (0.481)	BDL (0.481)	21.8	BDL (0.481)	BDL (0.481)
		4/2/2014	BDL (0.500)	BDL (0.500)	BDL (0.500)	BDL (0.500)	7.03	BDL (0.500)	BDL (0.500)
		10/28/2014	BDL (0.431)	BDL (0.431)	BDL (0.431)	BDL (0.431)	BDL (0.431)	BDL (0.431)	BDL (0.431)
		4/7/2015	BDL (0.0962)	BDL (0.0962)	BDL (0.0962)	BDL (0.0962)	1.25	BDL (0.0962)	BDL (0.0962)
		10/28/2015	BDL (0.521)	BDL (0.521)	BDL (0.521)	BDL (0.521)	BDL (0.521)	BDL (0.521)	BDL (0.521)

**TABLE 1**  
**HISTORIC AND CURRENT PCB RESULTS SUMMARY**  
**2015 ANNUAL PCB REPORT**  
**BODYCOTE THERMAL PROCESSING**  
**MELROSE PARK, IL**

GW Samples			Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260
IEPA TACO Tier I Standard			2.5	2.5	2.5	2.5	2.5	2.5	2.5
WELL	AQUIFER	DATE	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
M&A-113	Intermed	5/18/2004	BDL (0.5)	BDL (1.0)	BDL (0.5)	BDL (0.5)	15.8	BDL (0.5)	BDL (0.5)
		4/19/2006	BDL (1.0)	BDL (1.0)	BDL (1.0)	16.3	BDL (1.0)	BDL (1.0)	BDL (1.0)
		10/19/2006	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	1.22	BDL (0.5)	BDL (0.5)
		5/01/2007	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)
		10/17/2007 <sup>(2)</sup>	NS	NS	NS	NS	NS	NS	NS
		10/23/2008	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	5.28	BDL (0.5)	BDL (0.5)
		12/17/2008	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	1.29	BDL (0.5)	BDL (0.5)
		4/07/2009	BDL (0.5)	BDL (0.5)	BDL (0.5)	2.06	BDL (0.5)	BDL (0.5)	BDL (0.5)
		10/21/2009	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	11.2	BDL (0.5)	BDL (0.5)
		4/13/2010	BDL (0.658)	BDL (0.658)	BDL (0.658)	BDL (0.658)	5.38	BDL (0.658)	BDL (0.658)
		10/20/2010	BDL (2.48)	BDL (2.48)	BDL (2.48)	BDL (2.48)	37.6	BDL (2.48)	BDL (2.48)
		4/20/2011	BDL (0.526)	BDL (0.526)	BDL (0.526)	BDL (0.526)	10.2	BDL (0.526)	BDL (0.526)
		10/25/2011	BDL (6.25)	BDL (6.25)	BDL (6.25)	BDL (6.25)	90.6	BDL (6.25)	BDL (6.25)
		4/25/2012	BDL (0.526)	BDL (0.526)	BDL (0.526)	BDL (0.526)	7.37	BDL (0.526)	BDL (0.526)
		10/02/2012	BDL (0.526)	BDL (0.526)	BDL (0.526)	BDL (0.526)	15.1	BDL (0.526)	BDL (0.526)
		10/21/2013	BDL (4.81)	BDL (4.81)	BDL (4.81)	BDL (4.81)	70.7	BDL (4.81)	BDL (4.81)
		4/02/2014	BDL (25.0)	BDL (25.0)	BDL (25.0)	BDL (25.0)	166	BDL (25.0)	BDL (25.0)
M&A-114	Shallow	10/28/2014	BDL (1120)	BDL (1120)	BDL (1120)	BDL (1120)	4,030	BDL (1120)	BDL (1120)
		4/07/2015	BDL (4.81)	BDL (4.81)	BDL (4.81)	BDL (4.81)	238	BDL (4.81)	BDL (4.81)
		10/28/2015	BDL (5.95)	BDL (5.95)	BDL (5.95)	BDL (5.95)	17.2	BDL (5.95)	BDL (5.95)
		10/02/2002	BDL (0.5)	BDL (1.0)	BDL (0.5)	16.8	BDL (0.5)	13.3	BDL (0.5)
		4/17/2006 <sup>(3)</sup>	NS	NS	NS	NS	NS	NS	NS
		10/19/2006 <sup>(3)</sup>	NS	NS	NS	NS	NS	NS	NS
		5/2/2007 <sup>(3)</sup>	NS	NS	NS	NS	NS	NS	NS
		10/17/2007 <sup>(3)</sup>	NS	NS	NS	NS	NS	NS	NS
		10/22/2008 <sup>(3)</sup>	NS	NS	NS	NS	NS	NS	NS
		10/20/2009	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)
		4/07/2010	BDL (0.658)	BDL (0.658)	BDL (0.658)	BDL (0.658)	BDL (0.658)	BDL (0.658)	BDL (0.658)
		10/19/2010	BDL (0.495)	BDL (0.495)	BDL (0.495)	BDL (0.495)	BDL (0.495)	BDL (0.495)	BDL (0.495)
		4/20/2011	BDL (0.485)	BDL (0.485)	BDL (0.485)	BDL (0.485)	2.13	BDL (0.485)	BDL (0.485)
		10/24/2011	BDL (0.481)	BDL (0.481)	BDL (0.481)	BDL (0.481)	BDL (0.481)	BDL (0.481)	BDL (0.481)
		10/01/2012	BDL (4.76)	BDL (4.76)	BDL (4.76)	BDL (4.76)	10.5	BDL (4.76)	BDL (4.76)
		10/21/2013	BDL (0.446)	BDL (0.446)	BDL (0.446)	BDL (0.446)	3.77	BDL (0.446)	BDL (0.446)
		4/01/2014	NS	NS	NS	NS	NS	NS	NS
M&A-116	Shallow	Historic data not presented; historic data indicates that PCBs have not been present at concentrations greater than laboratory reporting limits in historic groundwater samples collected from M&A-116.							
		4/07/2015	BDL (0.0962)	BDL (0.0962)	BDL (0.0962)	BDL (0.0962)	BDL (0.0962)	BDL (0.0962)	BDL (0.0962)
		4/28/2015	BDL (0.521)	BDL (0.521)	BDL (0.521)	BDL (0.521)	BDL (0.521)	BDL (0.521)	BDL (0.521)
M&A-121	Intermed	Historic data not presented; historic data indicates that PCBs have not been present at concentrations greater than laboratory reporting limits in historic groundwater samples collected from M&A-121.							
		4/07/2015	BDL (0.0962)	BDL (0.0962)	BDL (0.0962)	BDL (0.0962)	BDL (0.0962)	BDL (0.0962)	BDL (0.0962)
		10/28/2015	BDL (0.521)	BDL (0.521)	BDL (0.521)	BDL (0.521)	BDL (0.521)	BDL (0.521)	BDL (0.521)

**TABLE 1**  
**HISTORIC AND CURRENT PCB RESULTS SUMMARY**  
**2015 ANNUAL PCB REPORT**  
**BODYCOTE THERMAL PROCESSING**  
**MELROSE PARK, IL**

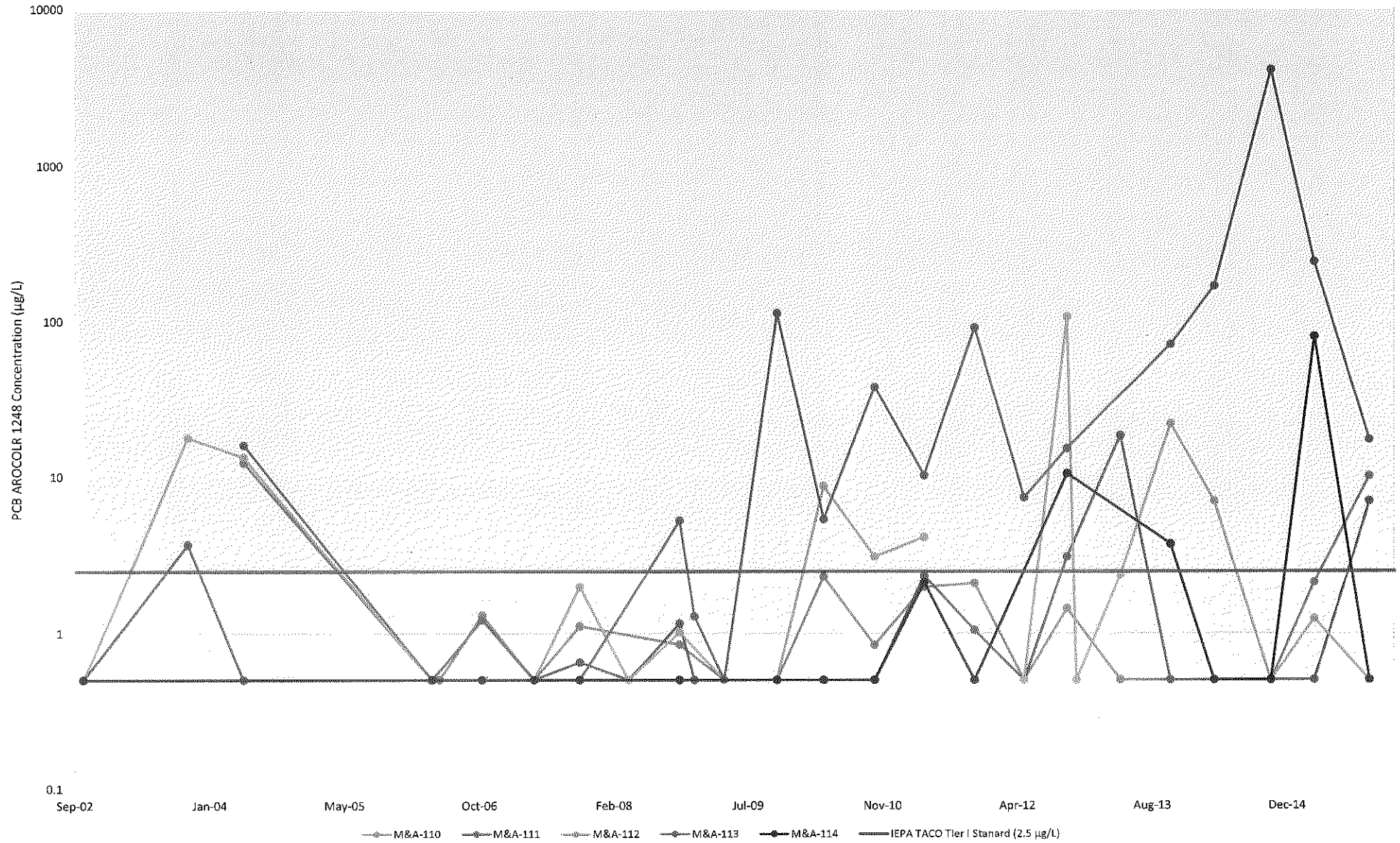
GW Samples			Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260
IEPA TACO Tier I Standard			2.5	2.5	2.5	2.5	2.5	2.5	2.5
WELL	AQUIFER	DATE	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
M&A-122	Intermed	Historic data not presented; historic data indicates that PCBs have not been present at concentrations greater than laboratory reporting limits in historic groundwater samples collected from M&A-122.							
		4/08/2015	BDL (0.0962)	BDL (0.0962)	BDL (0.0962)	BDL (0.0962)	BDL (0.0962)	BDL (0.0962)	BDL (0.0962)
		10/28/2015	BDL (0.521)	BDL (0.521)	BDL (0.521)	BDL (0.521)	BDL (0.521)	BDL (0.521)	BDL (0.521)
M&A-124	Shallow	Historic data not presented; historic data indicates that PCBs have not been present at concentrations greater than laboratory reporting limits in historic groundwater samples collected from M&A-124.							
		4/7/2015	BDL (0.0893)	BDL (0.0893)	BDL (0.0893)	BDL (0.0893)	<b>0.319</b>	BDL (0.0893)	BDL (0.0893)
		10/28/2015	BDL (0.521)	BDL (0.521)	BDL (0.521)	BDL (0.521)	BDL (0.521)	BDL (0.521)	BDL (0.521)
M&A-126	Intermed	Historic data not presented; historic data indicates that PCBs have not been present at concentrations greater than laboratory reporting limits in historic groundwater samples collected from M&A-126.							
		4/7/2015	BDL (0.0833)	BDL (0.0833)	BDL (0.0833)	BDL (0.0833)	BDL (0.0833)	BDL (0.0833)	BDL (0.0833)
		10/29/2015	BDL (0.521)	BDL (0.521)	BDL (0.521)	BDL (0.521)	BDL (0.521)	BDL (0.521)	BDL (0.521)
M&A-301	Shallow	4/19/2006	BDL (1.0)	BDL (1.0)	BDL (1.0)	BDL (1.0)	BDL (1.0)	BDL (1.0)	BDL (1.0)
		10/18/2006	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)
		5/02/2007	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)
		10/17/2007	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)
		4/16/2008	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)
		10/22/2008	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)
		4/09/2009	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)
		10/20/2009	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)
		4/12/2010	<b>1.08</b>	BDL (0.625)	BDL (0.625)	BDL (0.625)	BDL (0.625)	BDL (0.625)	BDL (0.625)
		10/20/2010	BDL (0.49)	BDL (0.49)	BDL (0.49)	BDL (0.49)	BDL (0.49)	BDL (0.49)	BDL (0.49)
		4/20/2011	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)
		10/25/2011	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)
		4/25/2012	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)
		10/01/2012	BDL (5.0)	BDL (5.0)	BDL (5.0)	BDL (5.0)	BDL (5.0)	BDL (5.0)	BDL (5.0)
		4/18/2013	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)	BDL (0.5)
		10/22/2013	BDL (0.417)	BDL (0.417)	BDL (0.417)	BDL (0.417)	BDL (0.417)	BDL (0.417)	BDL (0.417)
		4/02/2014	BDL (0.500)	BDL (0.500)	BDL (0.500)	BDL (0.500)	BDL (0.500)	BDL (0.500)	BDL (0.500)
		10/29/2014	BDL (0.431)	BDL (0.431)	BDL (0.431)	BDL (0.431)	BDL (0.431)	BDL (0.431)	BDL (0.431)
		4/07/2015	BDL (0.0893)	BDL (0.0893)	BDL (0.0893)	BDL (0.0893)	BDL (0.0893)	BDL (0.0893)	BDL (0.0893)
		10/29/2015	BDL (0.543)	BDL (0.543)	BDL (0.543)	BDL (0.543)	BDL (0.543)	BDL (0.543)	BDL (0.543)

**Notes:** µg/L - micrograms per liter  
PCB analysis performed via EPA Method 8082  
TACO - Tiered Approach toward Corrective Action  
TACO Tier I Standards based on the Illinois Environmental Protection Agency Title 35, Admin Code 742.505  
Tier 1 Remediation Objectives for Class II Groundwater  
Shading indicates compound exceeds established Illinois EPA TACO Tier I standard.  
**BOLD** values indicate compound was detected above the laboratory method detection limit indicated.  
NS - Not Sampled  
(1) Not sampled, well was dry.  
(2) Not sampled, insufficient water recharge to complete sampling.  
(3) Not sampled, well contained no water, only Free Product



## CHARTS

CHART 1  
HISTORIC PCB AROCOLR 1248 CONCENTRATIONS  
2015 ANNUAL PCB REPORT  
BODYCOTE THERMAL PROCESSING



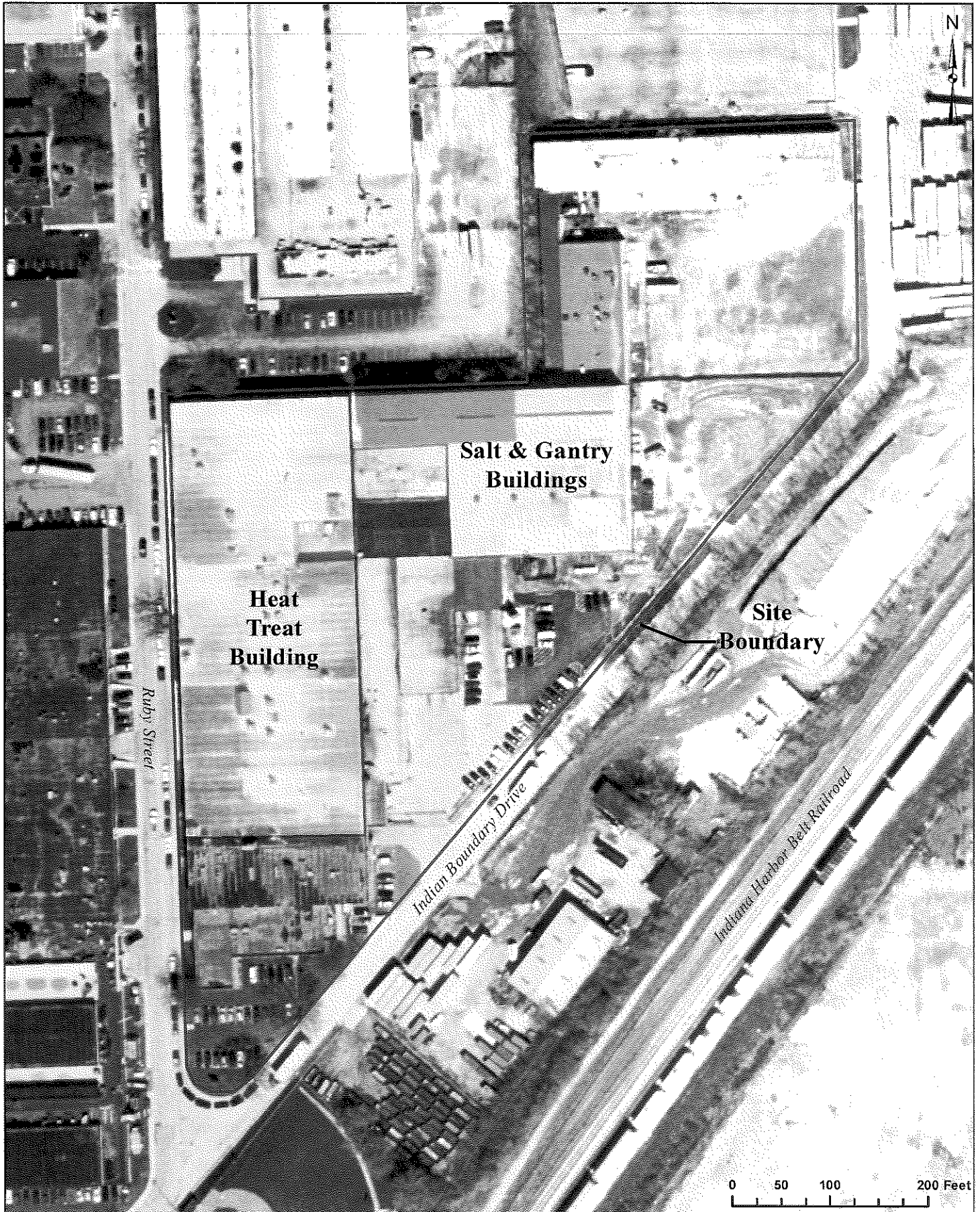
## FIGURES

## FIGURES

© 2015, Mabbett & Associates, Inc.

**1975 North Ruby Street  
Melrose Park, IL**

Date: 12/8/2015



**Mabbett®**  
Scientists | Engineers | Program Managers

5 Alfred Circle  
Bedford MA, 01730  
T. (781) 275-6050 - (800) 877-6050  
www.mabbett.com

© 2015, Mabbett & Associates, Inc.

Bodycote Thermal Processing  
PCB Annual Report Report

## SITE MAP

1975 North Ruby Street  
Melrose Park, IL

## Figure No. L-1b

Scale: See Scale Bar

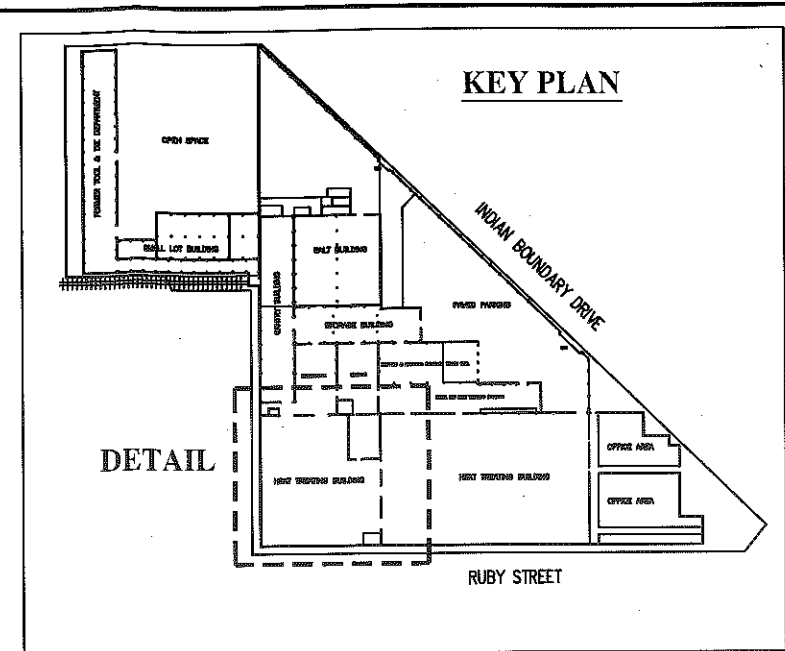
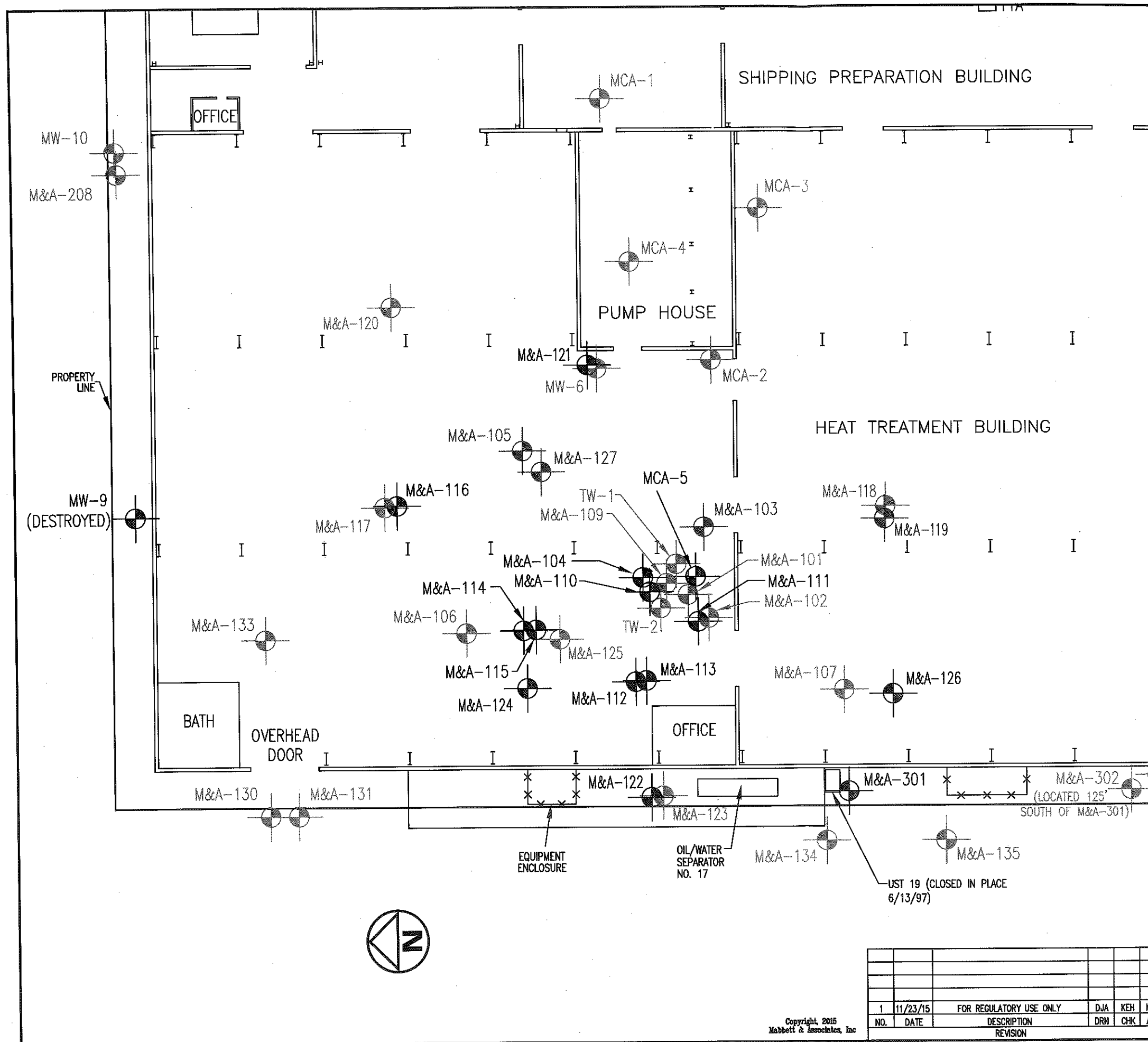
Drawn: MJH

Approved: CLM

Projection: NAD83 Illinois State Plane East (feet)

Proj. No. 1998002.333

Date: 12/8/2015



- NOTES:**
1. MONITORING WELL AND BORING LOCATIONS INSTALLED PRIOR TO 1997 ARE BASED ON FIELD MEASUREMENTS TAKEN BY M&A PERSONNEL.
  2. MONITORING WELL AND BORING LOCATIONS INSTALLED DURING AND AFTER 1997 ARE BASED ON FIELD MEASUREMENTS TAKEN BY AN ILLINOIS REGISTERED LAND SURVEYOR.

**LEGEND:**

- MONITORING WELL LOCATION
- CLOSED IN PLACE (DECEMBER 2008)
- CLOSED IN PLACE (MARCH-APRIL 2011)
- APPROXIMATE PROPERTY LINE
- CHAIN LINK FENCE
- SUPPORTING COLUMN

SCALE: 0' 30' 60' 90'

**BODYCOTE THERMAL PROCESSING, INC.**  
MELROSE PARK, ILLINOIS

**Mabbett**  
Scientists | Engineers | Program Managers  
Mabbett & Associates, Inc.  
5 Alfred Circle Bedford, MA 01730-2318  
T. 781-275-6050 - 800-877-6050  
www.mabbett.com

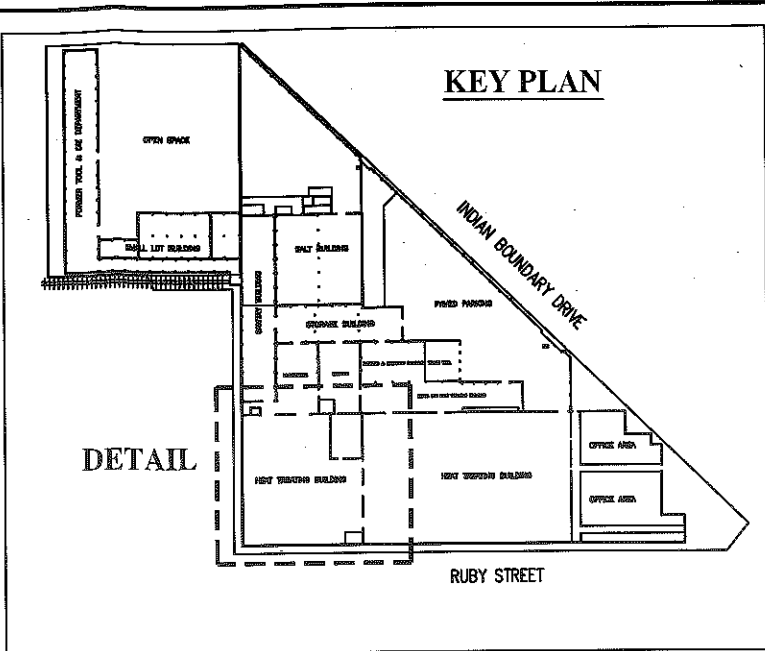
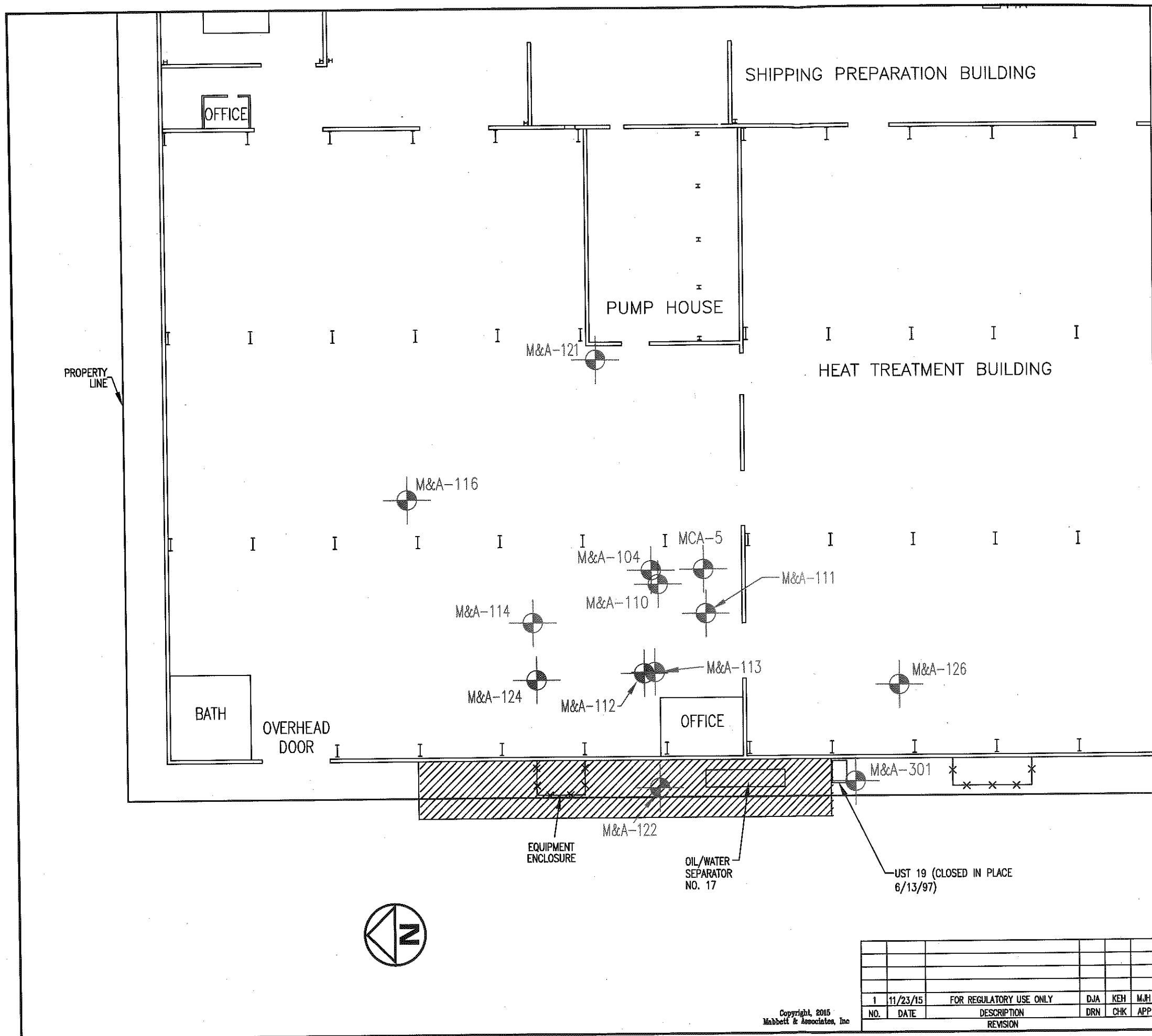
PCB ANNUAL REPORT  
MONITORING WELL LOCATIONS  
PLAN

DWG. NO.  
L-2

NO. DATE DESCRIPTION REVISION

1 11/23/15 FOR REGULATORY USE ONLY DJA KEH MJH

DRAWN DJA APPROVED MJH SCALE 1"=30'-0" PROJ. NO. 1998002.333.006



**NOTES:**

1. MONITORING WELL AND BORING LOCATIONS INSTALLED PRIOR TO 1997 ARE BASED ON FIELD MEASUREMENTS TAKEN BY M&A PERSONNEL.
2. MONITORING WELL AND BORING LOCATIONS INSTALLED DURING AND AFTER 1997 ARE BASED ON FIELD MEASUREMENTS TAKEN BY AN ILLINOIS REGISTERED LAND SURVEYOR.

**LEGEND:**

- MONITORING WELL LOCATION
- PCBs NOT DETECTED IN GROUNDWATER AT CONCENTRATIONS ABOVE THE LABORATORY METHOD REPORTING LIMIT OF 0.5 ug/L DURING 2015
- PCBs DETECTED IN GROUNDWATER AT CONCENTRATIONS ABOVE 0.5 ug/L BUT BELOW THE IEPA GRO OF 2.5 ug/L DURING 2015
- PCBs DETECTED IN GROUNDWATER ABOVE THE IEPA GRO OF 2.5 ug/L DURING 2015
- APPROXIMATE PROPERTY LINE
- CHAIN LINK FENCE
- SUPPORTING COLUMN
- ENGINEERED BARRIER: CONCRETE SLAB

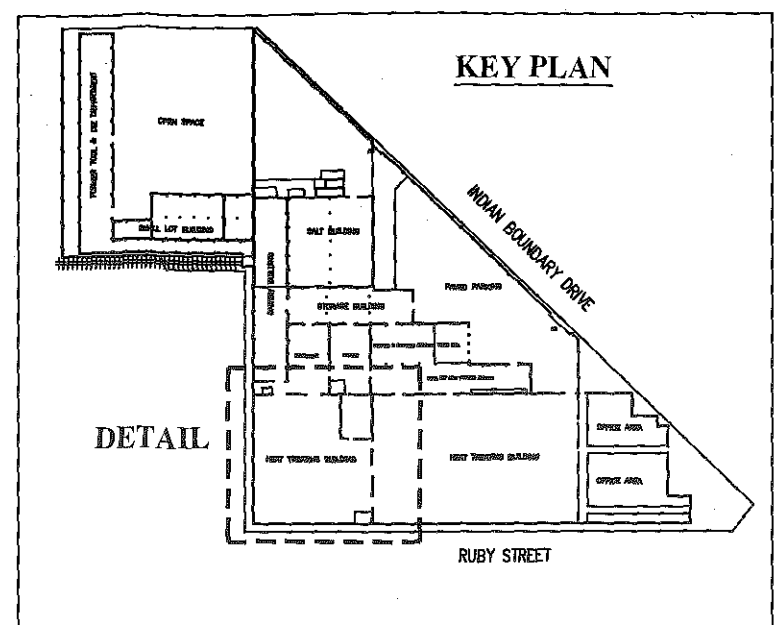


**BODYCOTE THERMAL PROCESSING, INC.**  
MELROSE PARK, ILLINOIS

<b>Mabbett</b> <small>Scientists   Engineers   Program Managers</small> Mabbett & Associates, Inc. 5 Alfred Circle Bedford, MA 01730-2318 T. 781-275-6050 - 800-877-6050 www.mabbett.com		PCB ANNUAL REPORT PCB DETECTION LOCATIONS APRIL/OCTOBER 2015	DWG. NO.  L-3
NO. 1 DATE 11/23/15 DESCRIPTION FOR REGULATORY USE ONLY REVISION	DJA KEH MJJ DRN CHK APP	DRAWN DJA APPROVED MJH SCALE 1"=30'-0"	PROJ. NO. 1998002.333.006

Copyright, 2015  
Mabbett & Associates, Inc.





**NOTES:**

1. MONITORING WELL AND BORING LOCATIONS INSTALLED PRIOR TO 1997 ARE BASED ON FIELD MEASUREMENTS TAKEN BY M&A PERSONNEL.
2. MONITORING WELL AND BORING LOCATIONS INSTALLED DURING AND AFTER 1997 ARE BASED ON FIELD MEASUREMENTS TAKEN BY AN ILLINOIS REGISTERED LAND SURVEYOR.
3. MONITORING WELLS PRESENTED WITHOUT A GROUNDWATER ELEVATION WERE NOT USED TO INTERPOLATE GROUNDWATER CONTOURS DUE TO DEPTH OF SCREEN OR OUTLIER DATA.

**LEGEND:**

- MONITORING WELL LOCATION
- (630.5') GROUNDWATER ELEVATION, IN RESPECT TO THE NATIONAL GEODETIC VERTICAL DATUM (NGVD)
- APPROXIMATE PROPERTY LINE
- SUPPORTING COLUMN
- 0.5 FT. SHALLOW GROUNDWATER CONTOURS (OCTOBER 2015)
- CHAIN LINK FENCE
- GROUNDWATER FLOW DIRECTION (OCTOBER 2015)



**BODYCOTE THERMAL PROCESSING, INC.**  
MELROSE PARK, ILLINOIS

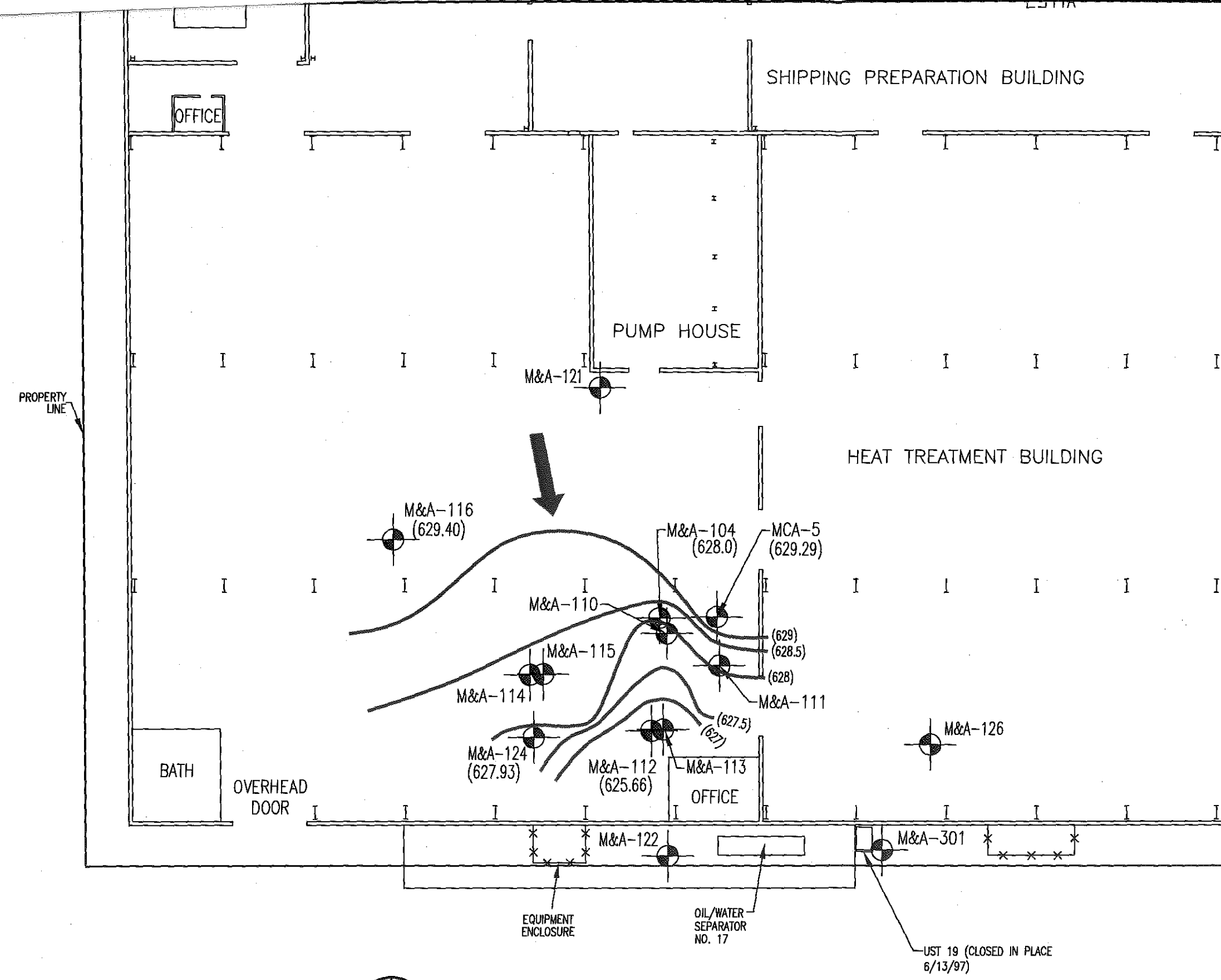
**Mabbett**<sup>TM</sup>  
Scientists | Engineers | Program Managers  
Mabbett & Associates, Inc.  
5 Alfred Circle Bedford, MA 01730-2318  
T. 781-275-6050 • 800-877-6050  
www.mabbett.com

PCB ANNUAL REPORT  
SHALLOW GROUNDWATER  
ELEVATIONS CONTOUR PLAN  
(OCTOBER 2015)

DWG. NO.  
**L-4**

NO.	DATE	DESCRIPTION	DRN	CHK	APP
1	11/20/15	FOR REGULATORY USE ONLY	DJA	KEH	MJH
REVISION					

DRAWN DJA    APPROVED MJH    SCALE 1"=30'-0"    PROJ. NO. 1998002.333.006





**APPENDIX A**

**Laboratory Analytical Results  
April and October 2015**

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

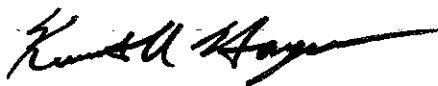
## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.  
TestAmerica Nashville  
2960 Foster Creighton Drive  
Nashville, TN 37204  
Tel: (615)726-0177

TestAmerica Job ID: 490-76279-1  
TestAmerica Sample Delivery Group: Bodycote - 1998002-332  
Client Project/Site: Heat Treat Building-PCBs

For:  
Mabbett & Associates, Inc.  
5 Alfred Circle  
Bedford, Massachusetts 01730

Attn: Christopher Mabbett



Authorized for release by:  
5/1/2015 3:35:12 PM

Ken Hayes, Project Manager II  
(615)301-5035  
ken.hayes@testamericainc.com

### LINKS

Review your project  
results through

**Total Access**

Have a Question?

**? Ask  
The  
Expert**

Visit us at:

[www.testamericainc.com](http://www.testamericainc.com)

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	2
Sample Summary . . . . .	3
Case Narrative . . . . .	4
Definitions . . . . .	5
Client Sample Results . . . . .	6
QC Sample Results . . . . .	19
QC Association . . . . .	20
Chronicle . . . . .	21
Method Summary . . . . .	24
Certification Summary . . . . .	25
Chain of Custody . . . . .	26
Receipt Checklists . . . . .	29

## Sample Summary

Client: Mabbett & Associates, Inc.  
Project/Site: Heat Treat Building-PCBs

TestAmerica Job ID: 490-76279-1  
SDG: Bodycote - 1998002-332

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
490-76279-1	M&A-114-040715	Water	04/07/15 10:57	04/10/15 08:55
490-76279-2	M&A-111-040715	Water	04/07/15 13:15	04/10/15 08:55
490-76279-3	M&A-5-040715	Water	04/07/15 11:45	04/10/15 08:55
490-76279-4	M&A-110-040715	Water	04/07/15 14:23	04/10/15 08:55
490-76279-5	M&A-104-040715	Water	04/07/15 15:15	04/10/15 08:55
490-76279-6	M&A-126-040715	Water	04/07/15 16:55	04/10/15 08:55
490-76279-7	M&A-301-040715	Water	04/07/15 16:15	04/10/15 08:55
490-76279-8	M&A-124-040715	Water	04/07/15 15:25	04/10/15 08:55
490-76279-9	M&A-113-040715	Water	04/07/15 14:30	04/10/15 08:55
490-76279-10	M&A-112-040715	Water	04/07/15 13:40	04/10/15 08:55
490-76279-11	M&A-121-040715	Water	04/07/15 11:45	04/10/15 08:55
490-76279-12	M&A-116-040715	Water	04/07/15 11:25	04/10/15 08:55
490-76279-13	M&A-122-040815	Water	04/08/15 08:45	04/10/15 08:55

## Case Narrative

Client: Mabbett & Associates, Inc.  
Project/Site: Heat Treat Building-PCBs

TestAmerica Job ID: 490-76279-1  
SDG: Bodycote - 1998002-332

---

**Job ID: 490-76279-1**

---

**Laboratory: TestAmerica Nashville**

---

**Narrative**

**Job Narrative**  
**490-76279-1**

**Comments**

No additional comments.

**Receipt**

The samples were received on 4/10/2015 8:55 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.8° C.

**GC Semi VOA**

Method(s) 8082A: The following sample was diluted due to the nature of the sample matrix: M&A-114-040715 (490-76279-1). Elevated reporting limits (RLs) are provided.

Method(s) 8082A: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/sample duplicate (MS/MSD/DUP) associated with preparation batch 240986.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

**Organic Prep**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

## Definitions/Glossary

Client: Mabbett & Associates, Inc.  
Project/Site: Heat Treat Building-PCBs

TestAmerica Job ID: 490-76279-1  
SDG: Bodycote - 1998002-332

### Qualifiers

#### GC Semi VOA

Qualifier	Qualifier Description
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
■	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)



## Client Sample Results

Client: Mabbett & Associates, Inc.  
Project/Site: Heat Treat Building-PCBs

TestAmerica Job ID: 490-76279-1  
SDG: Bodycote - 1998002-332

**Client Sample ID: M&A-114-040715**

**Lab Sample ID: 490-76279-1**

Date Collected: 04/07/15 10:57

Matrix: Water

Date Received: 04/10/15 08:55

**Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		5.00		ug/L		04/14/15 06:01	04/29/15 17:14	50
PCB-1221	ND		5.00		ug/L		04/14/15 06:01	04/29/15 17:14	50
PCB-1232	ND		5.00		ug/L		04/14/15 06:01	04/29/15 17:14	50
PCB-1242	ND		5.00		ug/L		04/14/15 06:01	04/29/15 17:14	50
PCB-1248	79.3		5.00		ug/L		04/14/15 06:01	04/29/15 17:14	50
PCB-1254	ND		5.00		ug/L		04/14/15 06:01	04/29/15 17:14	50
PCB-1260	ND		5.00		ug/L		04/14/15 06:01	04/29/15 17:14	50
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	10	p	10 - 150				04/14/15 06:01	04/29/15 17:14	50
Tetrachloro-m-xylene	62		10 - 150				04/14/15 06:01	04/29/15 17:14	50

# Client Sample Results

Client: Mabbett & Associates, Inc.  
Project/Site: Heat Treat Building-PCBs

TestAmerica Job ID: 490-76279-1  
SDG: Bodycote - 1998002-332

Client Sample ID: M&A-111-040715

Lab Sample ID: 490-76279-2

Date Collected: 04/07/15 13:15

Matrix: Water

Date Received: 04/10/15 08:55

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.100		ug/L		04/14/15 06:01	04/29/15 15:40	1
PCB-1221	ND		0.100		ug/L		04/14/15 06:01	04/29/15 15:40	1
PCB-1232	ND		0.100		ug/L		04/14/15 06:01	04/29/15 15:40	1
PCB-1242	ND		0.100		ug/L		04/14/15 06:01	04/29/15 15:40	1
PCB-1248	ND		0.100		ug/L		04/14/15 06:01	04/29/15 15:40	1
PCB-1254	ND		0.100		ug/L		04/14/15 06:01	04/29/15 15:40	1
PCB-1260	ND		0.100		ug/L		04/14/15 06:01	04/29/15 15:40	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	82		10 - 150				04/14/15 06:01	04/29/15 15:40	1
Tetrachloro-m-xylene	81		10 - 150				04/14/15 06:01	04/29/15 15:40	1

# Client Sample Results

Client: Mabbett & Associates, Inc.  
Project/Site: Heat Treat Building-PCBs

TestAmerica Job ID: 490-76279-1  
SDG: Bodycote - 1998002-332

Client Sample ID: MCA-5-040715

Lab Sample ID: 490-76279-3

Date Collected: 04/07/15 11:45

Matrix: Water

Date Received: 04/10/15 08:55

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.100		ug/L		04/14/15 06:01	04/29/15 15:55	1
PCB-1221	ND		0.100		ug/L		04/14/15 06:01	04/29/15 15:55	1
PCB-1232	ND		0.100		ug/L		04/14/15 06:01	04/29/15 15:55	1
PCB-1242	ND		0.100		ug/L		04/14/15 06:01	04/29/15 15:55	1
PCB-1248	ND		0.100		ug/L		04/14/15 06:01	04/29/15 15:55	1
PCB-1254	ND		0.100		ug/L		04/14/15 06:01	04/29/15 15:55	1
PCB-1260	ND		0.100		ug/L		04/14/15 06:01	04/29/15 15:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	86		10 - 150	04/14/15 06:01	04/29/15 15:55	1
Tetrachloro-m-xylene	83		10 - 150	04/14/15 06:01	04/29/15 15:55	1

# Client Sample Results

Client: Mabbett & Associates, Inc.  
Project/Site: Heat Treat Building-PCBs

TestAmerica Job ID: 490-76279-1  
SDG: Bodycote - 1998002-332

Client Sample ID: M&A-110-040715

Lab Sample ID: 490-76279-4

Date Collected: 04/07/15 14:23

Matrix: Water

Date Received: 04/10/15 08:55

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.100		ug/L		04/14/15 06:01	04/29/15 16:11	1
PCB-1221	ND		0.100		ug/L		04/14/15 06:01	04/29/15 16:11	1
PCB-1232	ND		0.100		ug/L		04/14/15 06:01	04/29/15 16:11	1
PCB-1242	ND		0.100		ug/L		04/14/15 06:01	04/29/15 16:11	1
PCB-1248	2.13		0.100		ug/L		04/14/15 06:01	04/29/15 16:11	1
PCB-1254	ND		0.100		ug/L		04/14/15 06:01	04/29/15 16:11	1
PCB-1260	ND		0.100		ug/L		04/14/15 06:01	04/29/15 16:11	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
DCB Decachlorobiphenyl (Surr)	78		10 - 150				04/14/15 06:01	04/29/15 16:11	1
Tetrachloro-m-xylene	71		10 - 150				04/14/15 06:01	04/29/15 16:11	1

# Client Sample Results

Client: Mabbett & Associates, Inc.  
Project/Site: Heat Treat Building-PCBs

TestAmerica Job ID: 490-76279-1  
SDG: Bodycote - 1998002-332

Client Sample ID: M&A-104-040715

Lab Sample ID: 490-76279-5

Date Collected: 04/07/15 15:15

Matrix: Water

Date Received: 04/10/15 08:55

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.100		ug/L		04/14/15 06:01	04/29/15 16:27	1
PCB-1221	ND		0.100		ug/L		04/14/15 06:01	04/29/15 16:27	1
PCB-1232	ND		0.100		ug/L		04/14/15 06:01	04/29/15 16:27	1
PCB-1242	ND		0.100		ug/L		04/14/15 06:01	04/29/15 16:27	1
PCB-1248	ND		0.100		ug/L		04/14/15 06:01	04/29/15 16:27	1
PCB-1254	ND		0.100		ug/L		04/14/15 06:01	04/29/15 16:27	1
PCB-1260	ND		0.100		ug/L		04/14/15 06:01	04/29/15 16:27	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Sum)	79		10 - 150				04/14/15 06:01	04/29/15 16:27	1
Tetrachloro-m-xylene	77	p	10 - 150				04/14/15 06:01	04/29/15 16:27	1

# Client Sample Results

Client: Mabbett & Associates, Inc.  
Project/Site: Heat Treat Building-PCBs

TestAmerica Job ID: 490-76279-1  
SDG: Bodycote - 1998002-332

Client Sample ID: M&A-126-040715

Lab Sample ID: 490-76279-6

Date Collected: 04/07/15 16:55

Matrix: Water

Date Received: 04/10/15 08:55

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.0833		ug/L		04/14/15 06:01	04/29/15 16:42	1
PCB-1221	ND		0.0833		ug/L		04/14/15 06:01	04/29/15 16:42	1
PCB-1232	ND		0.0833		ug/L		04/14/15 06:01	04/29/15 16:42	1
PCB-1242	ND		0.0833		ug/L		04/14/15 06:01	04/29/15 16:42	1
PCB-1248	ND		0.0833		ug/L		04/14/15 06:01	04/29/15 16:42	1
PCB-1254	ND		0.0833		ug/L		04/14/15 06:01	04/29/15 16:42	1
PCB-1260	ND		0.0833		ug/L		04/14/15 06:01	04/29/15 16:42	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	78		10 - 150				04/14/15 06:01	04/29/15 16:42	1
Tetrachloro-m-xylene	76		10 - 150				04/14/15 06:01	04/29/15 16:42	1

# Client Sample Results

Client: Mabbett & Associates, Inc.  
Project/Site: Heat Treat Building-PCBs

TestAmerica Job ID: 490-76279-1  
SDG: Bodycote - 1998002-332

Client Sample ID: M&A-301-040715

Lab Sample ID: 490-76279-7

Date Collected: 04/07/15 16:15

Matrix: Water

Date Received: 04/10/15 08:55

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.0893		ug/L		04/14/15 06:01	04/29/15 16:58	1
PCB-1221	ND		0.0893		ug/L		04/14/15 06:01	04/29/15 16:58	1
PCB-1232	ND		0.0893		ug/L		04/14/15 06:01	04/29/15 16:58	1
PCB-1242	ND		0.0893		ug/L		04/14/15 06:01	04/29/15 16:58	1
PCB-1248	ND		0.0893		ug/L		04/14/15 06:01	04/29/15 16:58	1
PCB-1254	ND		0.0893		ug/L		04/14/15 06:01	04/29/15 16:58	1
PCB-1260	ND		0.0893		ug/L		04/14/15 06:01	04/29/15 16:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	79		10 - 150	04/14/15 06:01	04/29/15 16:58	1
Tetrachloro-m-xylene	62		10 - 150	04/14/15 06:01	04/29/15 16:58	1

## Client Sample Results

Client: Mabbett & Associates, Inc.  
Project/Site: Heat Treat Building-PCBs

TestAmerica Job ID: 490-76279-1  
SDG: Bodycote - 1998002-332

**Client Sample ID: M&A-124-040715**

**Lab Sample ID: 490-76279-8**

Date Collected: 04/07/15 15:25

Matrix: Water

Date Received: 04/10/15 08:55

### Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.0893		ug/L		04/14/15 06:01	04/30/15 16:02	1
PCB-1221	ND		0.0893		ug/L		04/14/15 06:01	04/30/15 16:02	1
PCB-1232	ND		0.0893		ug/L		04/14/15 06:01	04/30/15 16:02	1
PCB-1242	ND		0.0893		ug/L		04/14/15 06:01	04/30/15 16:02	1
PCB-1248	0.319		0.0893		ug/L		04/14/15 06:01	04/30/15 16:02	1
PCB-1254	ND		0.0893		ug/L		04/14/15 06:01	04/30/15 16:02	1
PCB-1260	ND		0.0893		ug/L		04/14/15 06:01	04/30/15 16:02	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	92		10 - 150				04/14/15 06:01	04/30/15 16:02	1
Tetrachloro-m-xylene	74		10 - 150				04/14/15 06:01	04/30/15 16:02	1



# Client Sample Results

Client: Mabbett & Associates, Inc.  
Project/Site: Heat Treat Building-PCBs

TestAmerica Job ID: 490-76279-1  
SDG: Bodycote - 1998002-332

Client Sample ID: M&A-113-040715

Lab Sample ID: 490-76279-9

Date Collected: 04/07/15 14:30

Matrix: Water

Date Received: 04/10/15 08:55

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		4.81		ug/L		04/14/15 06:01	04/30/15 21:31	50
PCB-1221	ND		4.81		ug/L		04/14/15 06:01	04/30/15 21:31	50
PCB-1232	ND		4.81		ug/L		04/14/15 06:01	04/30/15 21:31	50
PCB-1242	ND		4.81		ug/L		04/14/15 06:01	04/30/15 21:31	50
PCB-1248	238		4.81		ug/L		04/14/15 06:01	04/30/15 21:31	50
PCB-1254	ND		4.81		ug/L		04/14/15 06:01	04/30/15 21:31	50
PCB-1260	ND		4.81		ug/L		04/14/15 06:01	04/30/15 21:31	50

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	28		10 - 150	04/14/15 06:01	04/30/15 21:31	50
Tetrachloro-m-xylene	62		10 - 150	04/14/15 06:01	04/30/15 21:31	50

## Client Sample Results

Client: Mabbett & Associates, Inc.  
Project/Site: Heat Treat Building-PCBs

TestAmerica Job ID: 490-76279-1  
SDG: Bodycote - 1998002-332

**Client Sample ID: M&A-112-040715**

**Lab Sample ID: 490-76279-10**

Date Collected: 04/07/15 13:40

Matrix: Water

Date Received: 04/10/15 08:55

**Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.0962		ug/L		04/14/15 06:01	04/30/15 16:34	1
PCB-1221	ND		0.0962		ug/L		04/14/15 06:01	04/30/15 16:34	1
PCB-1232	ND		0.0962		ug/L		04/14/15 06:01	04/30/15 16:34	1
PCB-1242	ND		0.0962		ug/L		04/14/15 06:01	04/30/15 16:34	1
PCB-1248	1.25		0.0962		ug/L		04/14/15 06:01	04/30/15 16:34	1
PCB-1254	ND		0.0962		ug/L		04/14/15 06:01	04/30/15 16:34	1
PCB-1260	ND		0.0962		ug/L		04/14/15 06:01	04/30/15 16:34	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
DCB Decachlorobiphenyl (Surr)	67		10 - 150				04/14/15 06:01	04/30/15 16:34	1
Tetrachloro-m-xylene	62		10 - 150				04/14/15 06:01	04/30/15 16:34	1

# Client Sample Results

Client: Mabbett & Associates, Inc.  
Project/Site: Heat Treat Building-PCBs

TestAmerica Job ID: 490-76279-1  
SDG: Bodycote - 1998002-332

Client Sample ID: M&A-121-040715

Lab Sample ID: 490-76279-11

Date Collected: 04/07/15 11:45

Matrix: Water

Date Received: 04/10/15 08:55

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.0962		ug/L		04/14/15 06:01	04/30/15 16:49	1
PCB-1221	ND		0.0962		ug/L		04/14/15 06:01	04/30/15 16:49	1
PCB-1232	ND		0.0962		ug/L		04/14/15 06:01	04/30/15 16:49	1
PCB-1242	ND		0.0962		ug/L		04/14/15 06:01	04/30/15 16:49	1
PCB-1248	ND		0.0962		ug/L		04/14/15 06:01	04/30/15 16:49	1
PCB-1254	ND		0.0962		ug/L		04/14/15 06:01	04/30/15 16:49	1
PCB-1260	ND		0.0962		ug/L		04/14/15 06:01	04/30/15 16:49	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	73		10 - 150				04/14/15 06:01	04/30/15 16:49	1
Tetrachloro-m-xylene	68		10 - 150				04/14/15 06:01	04/30/15 16:49	1

## Client Sample Results

Client: Mabbett & Associates, Inc.  
Project/Site: Heat Treat Building-PCBs

TestAmerica Job ID: 490-76279-1  
SDG: Bodycote - 1998002-332

**Client Sample ID: M&A-116-040715**

**Lab Sample ID: 490-76279-12**

Date Collected: 04/07/15 11:25

Matrix: Water

Date Received: 04/10/15 08:55

**Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.0962		ug/L		04/14/15 06:01	04/30/15 17:05	1
PCB-1221	ND		0.0962		ug/L		04/14/15 06:01	04/30/15 17:05	1
PCB-1232	ND		0.0962		ug/L		04/14/15 06:01	04/30/15 17:05	1
PCB-1242	ND		0.0962		ug/L		04/14/15 06:01	04/30/15 17:05	1
PCB-1248	ND		0.0962		ug/L		04/14/15 06:01	04/30/15 17:05	1
PCB-1254	ND		0.0962		ug/L		04/14/15 06:01	04/30/15 17:05	1
PCB-1280	ND		0.0962		ug/L		04/14/15 06:01	04/30/15 17:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	75		10 - 150	04/14/15 06:01	04/30/15 17:05	1
Tetrachloro-m-xylene	68		10 - 150	04/14/15 06:01	04/30/15 17:05	1

# Client Sample Results

Client: Mabbett & Associates, Inc.  
Project/Site: Heat Treat Building-PCBs

TestAmerica Job ID: 490-76279-1  
SDG: Bodycote - 1998002-332

Client Sample ID: M&A-122-040815

Lab Sample ID: 490-76279-13

Date Collected: 04/08/15 08:45

Matrix: Water

Date Received: 04/10/15 08:55

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.0962		ug/L		04/14/15 06:01	04/30/15 17:21	1
PCB-1221	ND		0.0962		ug/L		04/14/15 06:01	04/30/15 17:21	1
PCB-1232	ND		0.0962		ug/L		04/14/15 06:01	04/30/15 17:21	1
PCB-1242	ND		0.0962		ug/L		04/14/15 06:01	04/30/15 17:21	1
PCB-1248	ND		0.0962		ug/L		04/14/15 06:01	04/30/15 17:21	1
PCB-1254	ND		0.0962		ug/L		04/14/15 06:01	04/30/15 17:21	1
PCB-1260	ND		0.0962		ug/L		04/14/15 06:01	04/30/15 17:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Sum)	84		10 - 150	04/14/15 06:01	04/30/15 17:21	1
Tetrachloro-m-xylene	77		10 - 150	04/14/15 06:01	04/30/15 17:21	1

# QC Sample Results

Client: Mabbett & Associates, Inc.  
Project/Site: Heat Treat Building-PCBs

TestAmerica Job ID: 490-76279-1  
SDG: Bodycote - 1998002-332

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 490-240986/1-A  
Matrix: Water  
Analysis Batch: 244604

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 240986

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.100		ug/L		04/14/15 06:01	04/29/15 14:06	1
PCB-1221	ND		0.100		ug/L		04/14/15 06:01	04/29/15 14:06	1
PCB-1232	ND		0.100		ug/L		04/14/15 06:01	04/29/15 14:06	1
PCB-1242	ND		0.100		ug/L		04/14/15 06:01	04/29/15 14:06	1
PCB-1248	ND		0.100		ug/L		04/14/15 06:01	04/29/15 14:06	1
PCB-1254	ND		0.100		ug/L		04/14/15 06:01	04/29/15 14:06	1
PCB-1260	ND		0.100		ug/L		04/14/15 06:01	04/29/15 14:06	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	80		10 - 150				04/14/15 06:01	04/29/15 14:06	1
Tetrachloro-m-xylene	81		10 - 150				04/14/15 06:01	04/29/15 14:06	1

Lab Sample ID: LCS 490-240986/2-A  
Matrix: Water  
Analysis Batch: 244604

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 240986

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-1016	8.00	5.742		ug/L		72	23 - 139
PCB-1260	8.00	5.420		ug/L		68	36 - 144
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
DCB Decachlorobiphenyl (Surr)	79		10 - 150				
Tetrachloro-m-xylene	77		10 - 150				

## QC Association Summary

Client: Mabbett & Associates, Inc.  
Project/Site: Heat Treat Building-PCBs

TestAmerica Job ID: 490-76279-1  
SDG: Bodycote - 1998002-332

### GC Semi VOA

#### Prep Batch: 240986

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-76279-1	M&A-114-040715	Total/NA	Water	3510C	
490-76279-2	M&A-111-040715	Total/NA	Water	3510C	
490-76279-3	M&A-5-040715	Total/NA	Water	3510C	
490-76279-4	M&A-110-040715	Total/NA	Water	3510C	
490-76279-5	M&A-104-040715	Total/NA	Water	3510C	
490-76279-6	M&A-126-040715	Total/NA	Water	3510C	
490-76279-7	M&A-301-040715	Total/NA	Water	3510C	
490-76279-8	M&A-124-040715	Total/NA	Water	3510C	
490-76279-9	M&A-113-040715	Total/NA	Water	3510C	
490-76279-10	M&A-112-040715	Total/NA	Water	3510C	
490-76279-11	M&A-121-040715	Total/NA	Water	3510C	
490-76279-12	M&A-116-040715	Total/NA	Water	3510C	
490-76279-13	M&A-122-040815	Total/NA	Water	3510C	
LCS 490-240986/2-A	Lab Control Sample	Total/NA	Water	3510C	
MB 490-240986/1-A	Method Blank	Total/NA	Water	3510C	

#### Analysis Batch: 244604

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-76279-1	M&A-114-040715	Total/NA	Water	8082A	240986
490-76279-2	M&A-111-040715	Total/NA	Water	8082A	240986
490-76279-3	M&A-5-040715	Total/NA	Water	8082A	240986
490-76279-4	M&A-110-040715	Total/NA	Water	8082A	240986
490-76279-5	M&A-104-040715	Total/NA	Water	8082A	240986
490-76279-6	M&A-126-040715	Total/NA	Water	8082A	240986
490-76279-7	M&A-301-040715	Total/NA	Water	8082A	240986
LCS 490-240986/2-A	Lab Control Sample	Total/NA	Water	8082A	240986
MB 490-240986/1-A	Method Blank	Total/NA	Water	8082A	240986

#### Analysis Batch: 244869

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-76279-8	M&A-124-040715	Total/NA	Water	8082A	240986
490-76279-9	M&A-113-040715	Total/NA	Water	8082A	240986
490-76279-10	M&A-112-040715	Total/NA	Water	8082A	240986
490-76279-11	M&A-121-040715	Total/NA	Water	8082A	240986
490-76279-12	M&A-116-040715	Total/NA	Water	8082A	240986
490-76279-13	M&A-122-040815	Total/NA	Water	8082A	240986

## Lab Chronicle

Client: Mabbett & Associates, Inc.  
Project/Site: Heat Treat Building-PCBs

TestAmerica Job ID: 490-76279-1  
SDG: Bodycote - 1998002-332

**Client Sample ID: M&A-114-040715**

**Lab Sample ID: 490-76279-1**

Date Collected: 04/07/15 10:57

Matrix: Water

Date Received: 04/10/15 08:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			125 mL	1 mL	240986	04/14/15 06:01	ET	TAL NSH
Total/NA	Analysis	8082A		50	125 mL	1 mL	244604	04/29/15 17:14	MGH	TAL NSH

**Client Sample ID: M&A-111-040715**

**Lab Sample ID: 490-76279-2**

Date Collected: 04/07/15 13:15

Matrix: Water

Date Received: 04/10/15 08:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			125 mL	1 mL	240986	04/14/15 06:01	ET	TAL NSH
Total/NA	Analysis	8082A		1	125 mL	1 mL	244604	04/29/15 15:40	MGH	TAL NSH

**Client Sample ID: MCA-5-040715**

**Lab Sample ID: 490-76279-3**

Date Collected: 04/07/15 11:45

Matrix: Water

Date Received: 04/10/15 08:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			125 mL	1 mL	240986	04/14/15 06:01	ET	TAL NSH
Total/NA	Analysis	8082A		1	125 mL	1 mL	244604	04/29/15 15:55	MGH	TAL NSH

**Client Sample ID: M&A-110-040715**

**Lab Sample ID: 490-76279-4**

Date Collected: 04/07/15 14:23

Matrix: Water

Date Received: 04/10/15 08:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			125 mL	1 mL	240986	04/14/15 06:01	ET	TAL NSH
Total/NA	Analysis	8082A		1	125 mL	1 mL	244604	04/29/15 16:11	MGH	TAL NSH

**Client Sample ID: M&A-104-040715**

**Lab Sample ID: 490-76279-5**

Date Collected: 04/07/15 15:15

Matrix: Water

Date Received: 04/10/15 08:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			125 mL	1 mL	240986	04/14/15 06:01	ET	TAL NSH
Total/NA	Analysis	8082A		1	125 mL	1 mL	244604	04/29/15 16:27	MGH	TAL NSH

**Client Sample ID: M&A-126-040715**

**Lab Sample ID: 490-76279-6**

Date Collected: 04/07/15 16:55

Matrix: Water

Date Received: 04/10/15 08:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			150 mL	1 mL	240986	04/14/15 06:01	ET	TAL NSH
Total/NA	Analysis	8082A		1	150 mL	1 mL	244604	04/29/15 16:42	MGH	TAL NSH

TestAmerica Nashville



## Lab Chronicle

Client: Mabbett & Associates, Inc.  
Project/Site: Heat Treat Building-PCBs

TestAmerica Job ID: 490-76279-1  
SDG: Bodycote - 1998002-332

**Client Sample ID: M&A-301-040715**

**Lab Sample ID: 490-76279-7**

Date Collected: 04/07/15 16:15

Matrix: Water

Date Received: 04/10/15 08:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			140 mL	1 mL	240986	04/14/15 06:01	ET	TAL NSH
Total/NA	Analysis	8082A		1	140 mL	1 mL	244604	04/29/15 16:58	MGH	TAL NSH

**Client Sample ID: M&A-124-040715**

**Lab Sample ID: 490-76279-8**

Date Collected: 04/07/15 15:25

Matrix: Water

Date Received: 04/10/15 08:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			140 mL	1 mL	240986	04/14/15 06:01	ET	TAL NSH
Total/NA	Analysis	8082A		1	140 mL	1 mL	244869	04/30/15 16:02	MGH	TAL NSH

**Client Sample ID: M&A-113-040715**

**Lab Sample ID: 490-76279-9**

Date Collected: 04/07/15 14:30

Matrix: Water

Date Received: 04/10/15 08:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			130 mL	1 mL	240986	04/14/15 06:01	ET	TAL NSH
Total/NA	Analysis	8082A		50	130 mL	1 mL	244869	04/30/15 21:31	MGH	TAL NSH

**Client Sample ID: M&A-112-040715**

**Lab Sample ID: 490-76279-10**

Date Collected: 04/07/15 13:40

Matrix: Water

Date Received: 04/10/15 08:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			130 mL	1 mL	240986	04/14/15 06:01	ET	TAL NSH
Total/NA	Analysis	8082A		1	130 mL	1 mL	244869	04/30/15 16:34	MGH	TAL NSH

**Client Sample ID: M&A-121-040715**

**Lab Sample ID: 490-76279-11**

Date Collected: 04/07/15 11:45

Matrix: Water

Date Received: 04/10/15 08:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			130 mL	1 mL	240986	04/14/15 06:01	ET	TAL NSH
Total/NA	Analysis	8082A		1	130 mL	1 mL	244869	04/30/15 16:49	MGH	TAL NSH

**Client Sample ID: M&A-116-040715**

**Lab Sample ID: 490-76279-12**

Date Collected: 04/07/15 11:25

Matrix: Water

Date Received: 04/10/15 08:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			130 mL	1 mL	240986	04/14/15 06:01	ET	TAL NSH
Total/NA	Analysis	8082A		1	130 mL	1 mL	244869	04/30/15 17:05	MGH	TAL NSH

TestAmerica Nashville

## Lab Chronicle

Client: Mabbett & Associates, Inc.  
Project/Site: Heat Treat Building-PCBs

TestAmerica Job ID: 490-76279-1  
SDG: Bodycote - 1998002-332

**Client Sample ID: M&A-122-040815**

**Lab Sample ID: 490-76279-13**

**Date Collected: 04/08/15 08:45**

**Matrix: Water**

**Date Received: 04/10/15 08:55**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			130 mL	1 mL	240986	04/14/15 06:01	ET	TAL NSH
Total/NA	Analysis	8082A		1	130 mL	1 mL	244869	04/30/15 17:21	MGH	TAL NSH

### Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

## Method Summary

Client: Mabbett & Associates, Inc.  
Project/Site: Heat Treat Building-PCBs

TestAmerica Job ID: 490-76279-1  
SDG: Bodycote - 1998002-332

Method	Method Description	Protocol	Laboratory
8082A	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL NSH

**Protocol References:**

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

## Certification Summary

Client: Mabbett & Associates, Inc.  
Project/Site: Heat Treat Building-PCBs

TestAmerica Job ID: 490-76279-1  
SDG: Bodycote - 1998002-332

### Laboratory: TestAmerica Nashville

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Illinois	NELAP	5	200010	12-09-15

## COOLER RECEIPT FORM



490-76279 Chain of Custody

Cooler Received/Opened On 4/10/2015 @ 8:55

1. Tracking # 5238 (last 4 digits, FedEx)

Courier: FedEx IR Gun ID 17610176

2. Temperature of rep. sample or temp blank when opened: 1-8 Degrees Celsius

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO NA

4. Were custody seals on outside of cooler? YES...NO...NA

If yes, how many and where: 1 Front 1 Back

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (initial) ADH

7. Were custody seals on containers: YES NO and Intact YES...NO...NA

Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES NO...NA

b. Was there any observable headspace present in any VOA vial? YES...NO...NA

14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence # 1A

I certify that I unloaded the cooler and answered questions 7-14 (initial) D

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA

b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) VA

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial) W

I certify that I attached a label with the unique LIMS number to each container (initial) D

21. Were there Non-Conformance issues at login? YES...NO Was a NCM generated? YES...NO...#

2960 Foster Creighton Drive  
Nashville, TN 37204  
Phone (615) 726-0177 Fax (615) 726-3404

**TestAmerica**  
THE LEADER IN ENVIRONMENTAL TESTING

Client Information		Sampler: M. HORTON Z. LORCH		Lab PMT: Hayes, Ken		Carrier Tracking No(s): <b>FedEx</b>		COC No: 490-36687-12436.1	
Client Contact: Michael Horton		Phone: (774) 254-4771		E-Mail: ken.hayes@testamericainc.com				Page: Page 1 of 2	
Company: Mabbett & Associates, Inc.				Analysis Requested				Job #: 1998002-332	
Address: 5 Alfred Circle		Due Date Requested:		Loc: 490 76279				Preservation Codes:	
City: Bedford		TAT Requested (days): 14						A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2O3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - ph 4-5 L - EDA Z - other (specify)	
State, Zip: MA, 01730									
Phone: (781) 875-6050		PO #: 5088							
Email: horton@mabbett.com		WO #:							
Project Name: Heat Treat Building-PCBs		Project #: 49002697						Other:	
Site: Bodycote		SSOW#:							
Sample Identification		Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, C=wasteoil, BT=tissue, A=air)	Field Filtered Sample (Yes or No)	Total Number of containers	Special Instructions/Note:	
						N	X		
MEA-114-040715		4/7/15	1057	G	Water	N	X	1	
MEA-111-040715		4/7/15	1315	G	Water	N	X	2	
MCA-5-040715		4/7/15	1145	G	Water	N	X	2	
MEA-110-040715		4/7/15	1423	G	Water	N	X	2	
MEA-104-040715		4/7/15	1515	G	Water	N	X	2	
MEA-126-040715		4/7/15	1655	G	Water	N	X	2	
MEA-301-040715		4/7/15	1615	G	Water	N	X	2	
MEA-124-040715		4/7/15	1525	G	Water	N	X	2	
MEA-113-040715		4/7/15	1430	G	Water	N	X	2 High TCE contamination	
MEA-112-040715		4/7/15	1340	G	Water	N	X	2	
MEA-121-040715		4/7/15	1145	G	Water	N	X	2	
Possible Hazard Identification						Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)			
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological						<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months			
Deliverable Requested: I, II, III, IV, Other (specify)						Special Instructions/QC Requirements:			
Empty Kit Relinquished by:		Date:	Time:		Method of Shipment:				
Relinquished by: M. Horton [Signature]		Date/Time: 4/9/15 1000	Company: Mabbett		Received by: FedEx		Date/Time:	Company:	
Relinquished by:		Date/Time:	Company:		Received by: [Signature]		Date/Time: 4/10/15 0835	Company: 1.6	
Relinquished by:		Date/Time:	Company:		Received by:		Date/Time:	Company:	

2960 Foster Creighton Drive  
Nashville, TN 37204  
Phone (615) 726-0177 Fax (615) 726-3404

**TestAmerica**  
THE LEADER IN ENVIRONMENTAL TESTING

[illegible]

## Login Sample Receipt Checklist

Client: Mabbett & Associates, Inc.

Job Number: 490-76279-1  
SDG Number: Bodycote - 1998002-332

Login Number: 76279

List Number: 1

List Source: TestAmerica Nashville

Creator: Buckingham, Paul

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	



# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

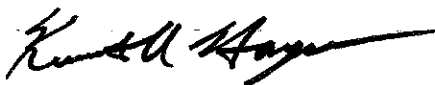
## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.  
TestAmerica Nashville  
2960 Foster Creighton Drive  
Nashville, TN 37204  
Tel: (615)726-0177

TestAmerica Job ID: 490-90875-1  
TestAmerica Sample Delivery Group: 1998002.333  
Client Project/Site: Bodycote Heat Treat Building

For:  
Mabbett & Associates, Inc.  
5 Alfred Circle  
Bedford, Massachusetts 01730

Attn: Christopher Mabbett



Authorized for release by:  
11/13/2015 11:54:54 AM

Ken Hayes, Project Manager II  
(615)301-5035  
ken.hayes@testamericainc.com

### LINKS

Review your project  
results through

**TotalAccess**

Have a Question?



Visit us at:

[www.testamericainc.com](http://www.testamericainc.com)

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	2
Sample Summary . . . . .	3
Case Narrative . . . . .	4
Definitions . . . . .	5
Client Sample Results . . . . .	6
QC Sample Results . . . . .	20
QC Association . . . . .	21
Chronicle . . . . .	22
Method Summary . . . . .	25
Certification Summary . . . . .	26
Chain of Custody . . . . .	27
Receipt Checklists . . . . .	30

## Sample Summary

Client: Mabbett & Associates, Inc.  
Project/Site: Bodycote Heat Treat Building

TestAmerica Job ID: 490-90875-1  
SDG: 1998002.333

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
490-90875-1	MCA-5-102815	Ground Water	10/28/15 14:15	10/31/15 10:45
490-90875-2	M&A-104-102815	Ground Water	10/28/15 15:35	10/31/15 10:45
490-90875-3	M&A-110-102815	Ground Water	10/28/15 16:15	10/31/15 10:45
490-90875-4	M&A-111-102815	Ground Water	10/28/15 16:50	10/31/15 10:45
490-90875-5	M&A-112-102815	Ground Water	10/28/15 16:45	10/31/15 10:45
490-90875-6	M&A-113-102815	Ground Water	10/28/15 16:00	10/31/15 10:45
490-90875-7	M&A-114-102815	Ground Water	10/28/15 14:35	10/31/15 10:45
490-90875-8	M&A-116-102815	Ground Water	10/28/15 13:45	10/31/15 10:45
490-90875-9	M&A-121-102815	Ground Water	10/28/15 14:10	10/31/15 10:45
490-90875-10	M&A-122-102815	Ground Water	10/28/15 17:40	10/31/15 10:45
490-90875-11	M&A-124-102815	Ground Water	10/28/15 15:50	10/31/15 10:45
490-90875-12	M&A-126-102915	Ground Water	10/29/15 09:15	10/31/15 10:45
490-90875-13	M&A-301-102915	Ground Water	10/29/15 08:25	10/31/15 10:45
490-90875-14	DUP-02-102915	Ground Water	10/29/15 08:00	10/31/15 10:45

## Case Narrative

Client: Mabbett & Associates, Inc.  
Project/Site: Bodycote Heat Treat Building

TestAmerica Job ID: 490-90875-1  
SDG: 1998002.333

---

**Job ID: 490-90875-1**

---

**Laboratory: TestAmerica Nashville**

---

**Narrative**

**Job Narrative**  
**490-90875-1**

**Comments**

No additional comments.

**Receipt**

The samples were received on 10/31/2015 10:45 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.0° C.

**GC Semi VOA**

Method(s) 8082A: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 490-295482 and analytical batch 490-296843.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

**Organic Prep**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

## Definitions/Glossary

Client: Mabbett & Associates, Inc.  
Project/Site: Bodycote Heat Treat Building

TestAmerica Job ID: 490-90875-1  
SDG: 1998002.333

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# Client Sample Results

Client: Mabbett & Associates, Inc.  
Project/Site: Bodycote Heat Treat Building

TestAmerica Job ID: 490-90875-1  
SDG: 1998002.333

Client Sample ID: MCA-5-102815

Lab Sample ID: 490-90875-1

Date Collected: 10/28/15 14:15

Matrix: Ground Water

Date Received: 10/31/15 10:45

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.521		ug/L		11/04/15 10:02	11/09/15 17:04	1
PCB-1221	ND		0.521		ug/L		11/04/15 10:02	11/09/15 17:04	1
PCB-1232	ND		0.521		ug/L		11/04/15 10:02	11/09/15 17:04	1
PCB-1242	ND		0.521		ug/L		11/04/15 10:02	11/09/15 17:04	1
PCB-1248	ND		0.521		ug/L		11/04/15 10:02	11/09/15 17:04	1
PCB-1254	ND		0.521		ug/L		11/04/15 10:02	11/09/15 17:04	1
PCB-1260	ND		0.521		ug/L		11/04/15 10:02	11/09/15 17:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	70		10 - 150	11/04/15 10:02	11/09/15 17:04	1
Tetrachloro-m-xylene	91		10 - 150	11/04/15 10:02	11/09/15 17:04	1

# Client Sample Results

Client: Mabbett & Associates, Inc.  
Project/Site: Bodycote Heat Treat Building

TestAmerica Job ID: 490-90875-1  
SDG: 1998002.333

**Client Sample ID: M&A-104-102815**

**Lab Sample ID: 490-90875-2**

Date Collected: 10/28/15 15:35

Matrix: Ground Water

Date Received: 10/31/15 10:45

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.500		ug/L		11/04/15 10:02	11/09/15 17:19	1
PCB-1221	ND		0.500		ug/L		11/04/15 10:02	11/09/15 17:19	1
PCB-1232	ND		0.500		ug/L		11/04/15 10:02	11/09/15 17:19	1
PCB-1242	ND		0.500		ug/L		11/04/15 10:02	11/09/15 17:19	1
PCB-1248	ND		0.500		ug/L		11/04/15 10:02	11/09/15 17:19	1
PCB-1254	ND		0.500		ug/L		11/04/15 10:02	11/09/15 17:19	1
PCB-1260	ND		0.500		ug/L		11/04/15 10:02	11/09/15 17:19	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	111		10 - 150				11/04/15 10:02	11/09/15 17:19	1
Tetrachloro-m-xylene	89		10 - 150				11/04/15 10:02	11/09/15 17:19	1

# Client Sample Results

Client: Mabbett & Associates, Inc.  
Project/Site: Bodycote Heat Treat Building

TestAmerica Job ID: 490-90875-1  
SDG: 1998002.333

Client Sample ID: M&A-110-102815

Lab Sample ID: 490-90875-3

Date Collected: 10/28/15 16:15

Matrix: Ground Water

Date Received: 10/31/15 10:45

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.521		ug/L		11/04/15 10:02	11/09/15 17:35	1
PCB-1221	ND		0.521		ug/L		11/04/15 10:02	11/09/15 17:35	1
PCB-1232	ND		0.521		ug/L		11/04/15 10:02	11/09/15 17:35	1
PCB-1242	ND		0.521		ug/L		11/04/15 10:02	11/09/15 17:35	1
<b>PCB-1248</b>	<b>10.1</b>		0.521		ug/L		11/04/15 10:02	11/09/15 17:35	1
PCB-1254	ND		0.521		ug/L		11/04/15 10:02	11/09/15 17:35	1
PCB-1260	ND		0.521		ug/L		11/04/15 10:02	11/09/15 17:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	89		10 - 150	11/04/15 10:02	11/09/15 17:35	1
Tetrachloro-m-xylene	86		10 - 150	11/04/15 10:02	11/09/15 17:35	1



# Client Sample Results

Client: Mabbett & Associates, Inc.  
Project/Site: Bodycote Heat Treat Building

TestAmerica Job ID: 490-90875-1  
SDG: 1998002.333

**Client Sample ID: M&A-111-102815**

**Lab Sample ID: 490-90875-4**

Date Collected: 10/28/15 16:50

Matrix: Ground Water

Date Received: 10/31/15 10:45

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.521		ug/L		11/04/15 10:02	11/09/15 17:50	1
PCB-1221	ND		0.521		ug/L		11/04/15 10:02	11/09/15 17:50	1
PCB-1232	ND		0.521		ug/L		11/04/15 10:02	11/09/15 17:50	1
PCB-1242	ND		0.521		ug/L		11/04/15 10:02	11/09/15 17:50	1
PCB-1248	7.00		0.521		ug/L		11/04/15 10:02	11/09/15 17:50	1
PCB-1254	ND		0.521		ug/L		11/04/15 10:02	11/09/15 17:50	1
PCB-1260	ND		0.521		ug/L		11/04/15 10:02	11/09/15 17:50	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	85		10 - 150				11/04/15 10:02	11/09/15 17:50	1
Tetrachloro-m-xylene	80		10 - 150				11/04/15 10:02	11/09/15 17:50	1

# Client Sample Results

Client: Mabbett & Associates, Inc.  
Project/Site: Bodycote Heat Treat Building

TestAmerica Job ID: 490-90875-1  
SDG: 1998002.333

**Client Sample ID: M&A-112-102815**

**Lab Sample ID: 490-90875-5**

Date Collected: 10/28/15 16:45

Matrix: Ground Water

Date Received: 10/31/15 10:45

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.521		ug/L		11/04/15 10:02	11/09/15 18:06	1
PCB-1221	ND		0.521		ug/L		11/04/15 10:02	11/09/15 18:06	1
PCB-1232	ND		0.521		ug/L		11/04/15 10:02	11/09/15 18:06	1
PCB-1242	ND		0.521		ug/L		11/04/15 10:02	11/09/15 18:06	1
PCB-1248	ND		0.521		ug/L		11/04/15 10:02	11/09/15 18:06	1
PCB-1254	ND		0.521		ug/L		11/04/15 10:02	11/09/15 18:06	1
PCB-1260	ND		0.521		ug/L		11/04/15 10:02	11/09/15 18:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	77		10 - 150	11/04/15 10:02	11/09/15 18:06	1
Tetrachloro-m-xylene	83		10 - 150	11/04/15 10:02	11/09/15 18:06	1

## Client Sample Results

Client: Mabbett & Associates, Inc.  
Project/Site: Bodycote Heat Treat Building

TestAmerica Job ID: 490-90875-1  
SDG: 1998002.333

**Client Sample ID: M&A-113-102815**

**Lab Sample ID: 490-90875-6**

Date Collected: 10/28/15 16:00

Matrix: Ground Water

Date Received: 10/31/15 10:45

**Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		5.95		ug/L		11/04/15 10:02	11/09/15 23:19	10
PCB-1221	ND		5.95		ug/L		11/04/15 10:02	11/09/15 23:19	10
PCB-1232	ND		5.95		ug/L		11/04/15 10:02	11/09/15 23:19	10
PCB-1242	ND		5.95		ug/L		11/04/15 10:02	11/09/15 23:19	10
<b>PCB-1248</b>	<b>17.2</b>		5.95		ug/L		11/04/15 10:02	11/09/15 23:19	10
PCB-1254	ND		5.95		ug/L		11/04/15 10:02	11/09/15 23:19	10
PCB-1260	ND		5.95		ug/L		11/04/15 10:02	11/09/15 23:19	10
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	121		10 - 150				11/04/15 10:02	11/09/15 23:19	10
Tetrachloro-m-xylene	107		10 - 150				11/04/15 10:02	11/09/15 23:19	10

# Client Sample Results

Client: Mabbett & Associates, Inc.  
Project/Site: Bodycote Heat Treat Building

TestAmerica Job ID: 490-90875-1  
SDG: 1998002.333

Client Sample ID: M&A-114-102815

Lab Sample ID: 490-90875-7

Date Collected: 10/28/15 14:35

Matrix: Ground Water

Date Received: 10/31/15 10:45

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.595		ug/L		11/04/15 10:02	11/09/15 18:37	1
PCB-1221	ND		0.595		ug/L		11/04/15 10:02	11/09/15 18:37	1
PCB-1232	ND		0.595		ug/L		11/04/15 10:02	11/09/15 18:37	1
PCB-1242	ND		0.595		ug/L		11/04/15 10:02	11/09/15 18:37	1
PCB-1248	ND		0.595		ug/L		11/04/15 10:02	11/09/15 18:37	1
PCB-1254	ND		0.595		ug/L		11/04/15 10:02	11/09/15 18:37	1
PCB-1260	ND		0.595		ug/L		11/04/15 10:02	11/09/15 18:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	74		10 - 150	11/04/15 10:02	11/09/15 18:37	1
Tetrachloro-m-xylene	81		10 - 150	11/04/15 10:02	11/09/15 18:37	1

# Client Sample Results

Client: Mabbett & Associates, Inc.  
Project/Site: Bodycote Heat Treat Building

TestAmerica Job ID: 490-90875-1  
SDG: 1998002.333

**Client Sample ID: M&A-116-102815**

**Lab Sample ID: 490-90875-8**

Date Collected: 10/28/15 13:45

Matrix: Ground Water

Date Received: 10/31/15 10:45

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.521		ug/L		11/04/15 10:02	11/09/15 18:53	1
PCB-1221	ND		0.521		ug/L		11/04/15 10:02	11/09/15 18:53	1
PCB-1232	ND		0.521		ug/L		11/04/15 10:02	11/09/15 18:53	1
PCB-1242	ND		0.521		ug/L		11/04/15 10:02	11/09/15 18:53	1
PCB-1248	ND		0.521		ug/L		11/04/15 10:02	11/09/15 18:53	1
PCB-1254	ND		0.521		ug/L		11/04/15 10:02	11/09/15 18:53	1
PCB-1260	ND		0.521		ug/L		11/04/15 10:02	11/09/15 18:53	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	118		10 - 150				11/04/15 10:02	11/09/15 18:53	1
Tetrachloro-m-xylene	98		10 - 150				11/04/15 10:02	11/09/15 18:53	1

# Client Sample Results

Client: Mabbett & Associates, Inc.  
Project/Site: Bodycote Heat Treat Building

TestAmerica Job ID: 490-90875-1  
SDG: 1998002.333

Client Sample ID: M&A-121-102815

Lab Sample ID: 490-90875-9

Date Collected: 10/28/15 14:10

Matrix: Ground Water

Date Received: 10/31/15 10:45

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.521		ug/L		11/04/15 10:02	11/09/15 19:09	1
PCB-1221	ND		0.521		ug/L		11/04/15 10:02	11/09/15 19:09	1
PCB-1232	ND		0.521		ug/L		11/04/15 10:02	11/09/15 19:09	1
PCB-1242	ND		0.521		ug/L		11/04/15 10:02	11/09/15 19:09	1
PCB-1248	ND		0.521		ug/L		11/04/15 10:02	11/09/15 19:09	1
PCB-1254	ND		0.521		ug/L		11/04/15 10:02	11/09/15 19:09	1
PCB-1260	ND		0.521		ug/L		11/04/15 10:02	11/09/15 19:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	87		10 - 150	11/04/15 10:02	11/09/15 19:09	1
Tetrachloro-m-xylene	83		10 - 150	11/04/15 10:02	11/09/15 19:09	1

# Client Sample Results

Client: Mabbett & Associates, Inc.  
Project/Site: Bodycote Heat Treat Building

TestAmerica Job ID: 490-90875-1  
SDG: 1998002.333

**Client Sample ID: M&A-122-102815**

**Lab Sample ID: 490-90875-10**

Date Collected: 10/28/15 17:40

Matrix: Ground Water

Date Received: 10/31/15 10:45

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.521		ug/L		11/04/15 10:02	11/09/15 19:24	1
PCB-1221	ND		0.521		ug/L		11/04/15 10:02	11/09/15 19:24	1
PCB-1232	ND		0.521		ug/L		11/04/15 10:02	11/09/15 19:24	1
PCB-1242	ND		0.521		ug/L		11/04/15 10:02	11/09/15 19:24	1
PCB-1248	ND		0.521		ug/L		11/04/15 10:02	11/09/15 19:24	1
PCB-1254	ND		0.521		ug/L		11/04/15 10:02	11/09/15 19:24	1
PCB-1260	ND		0.521		ug/L		11/04/15 10:02	11/09/15 19:24	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	113		10 - 150				11/04/15 10:02	11/09/15 19:24	1
Tetrachloro-m-xylene	92		10 - 150				11/04/15 10:02	11/09/15 19:24	1

# Client Sample Results

Client: Mabbett & Associates, Inc.  
Project/Site: Bodycote Heat Treat Building

TestAmerica Job ID: 490-90875-1  
SDG: 1998002.333

Client Sample ID: M&A-124-102815

Lab Sample ID: 490-90875-11

Date Collected: 10/28/15 15:50

Matrix: Ground Water

Date Received: 10/31/15 10:45

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.521		ug/L		11/04/15 10:02	11/09/15 19:40	1
PCB-1221	ND		0.521		ug/L		11/04/15 10:02	11/09/15 19:40	1
PCB-1232	ND		0.521		ug/L		11/04/15 10:02	11/09/15 19:40	1
PCB-1242	ND		0.521		ug/L		11/04/15 10:02	11/09/15 19:40	1
PCB-1248	ND		0.521		ug/L		11/04/15 10:02	11/09/15 19:40	1
PCB-1254	ND		0.521		ug/L		11/04/15 10:02	11/09/15 19:40	1
PCB-1260	ND		0.521		ug/L		11/04/15 10:02	11/09/15 19:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	119		10 - 150	11/04/15 10:02	11/09/15 19:40	1
Tetrachloro-m-xylene	99		10 - 150	11/04/15 10:02	11/09/15 19:40	1



# Client Sample Results

Client: Mabbett & Associates, Inc.  
Project/Site: Bodycote Heat Treat Building

TestAmerica Job ID: 490-90875-1  
SDG: 1998002.333

**Client Sample ID: M&A-126-102915**

**Lab Sample ID: 490-90875-12**

Date Collected: 10/29/15 09:15

Matrix: Ground Water

Date Received: 10/31/15 10:45

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.521		ug/L		11/04/15 10:02	11/09/15 19:56	1
PCB-1221	ND		0.521		ug/L		11/04/15 10:02	11/09/15 19:56	1
PCB-1232	ND		0.521		ug/L		11/04/15 10:02	11/09/15 19:56	1
PCB-1242	ND		0.521		ug/L		11/04/15 10:02	11/09/15 19:56	1
PCB-1248	ND		0.521		ug/L		11/04/15 10:02	11/09/15 19:56	1
PCB-1254	ND		0.521		ug/L		11/04/15 10:02	11/09/15 19:56	1
PCB-1260	ND		0.521		ug/L		11/04/15 10:02	11/09/15 19:56	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Sum)	105		10 - 150				11/04/15 10:02	11/09/15 19:56	1
Tetrachloro-m-xylene	80		10 - 150				11/04/15 10:02	11/09/15 19:56	1

# Client Sample Results

Client: Mabbett & Associates, Inc.  
Project/Site: Bodycote Heat Treat Building

TestAmerica Job ID: 490-90875-1  
SDG: 1998002.333

Client Sample ID: M&A-301-102915

Lab Sample ID: 490-90875-13

Date Collected: 10/29/15 08:25

Matrix: Ground Water

Date Received: 10/31/15 10:45

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.543		ug/L		11/04/15 10:02	11/09/15 20:11	1
PCB-1221	ND		0.543		ug/L		11/04/15 10:02	11/09/15 20:11	1
PCB-1232	ND		0.543		ug/L		11/04/15 10:02	11/09/15 20:11	1
PCB-1242	ND		0.543		ug/L		11/04/15 10:02	11/09/15 20:11	1
PCB-1248	ND		0.543		ug/L		11/04/15 10:02	11/09/15 20:11	1
PCB-1254	ND		0.543		ug/L		11/04/15 10:02	11/09/15 20:11	1
PCB-1260	ND		0.543		ug/L		11/04/15 10:02	11/09/15 20:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	92		10 - 150	11/04/15 10:02	11/09/15 20:11	1
Tetrachloro-m-xylene	74		10 - 150	11/04/15 10:02	11/09/15 20:11	1

# Client Sample Results

Client: Mabbett & Associates, Inc.  
Project/Site: Bodycote Heat Treat Building

TestAmerica Job ID: 490-90875-1  
SDG: 1998002.333

**Client Sample ID: DUP-02-102915**

**Lab Sample ID: 490-90875-14**

Date Collected: 10/29/15 08:00

Matrix: Ground Water

Date Received: 10/31/15 10:45

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.521		ug/L		11/04/15 10:02	11/09/15 20:27	1
PCB-1221	ND		0.521		ug/L		11/04/15 10:02	11/09/15 20:27	1
PCB-1232	ND		0.521		ug/L		11/04/15 10:02	11/09/15 20:27	1
PCB-1242	ND		0.521		ug/L		11/04/15 10:02	11/09/15 20:27	1
PCB-1248	ND		0.521		ug/L		11/04/15 10:02	11/09/15 20:27	1
PCB-1254	ND		0.521		ug/L		11/04/15 10:02	11/09/15 20:27	1
PCB-1260	ND		0.521		ug/L		11/04/15 10:02	11/09/15 20:27	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	95		10 - 150				11/04/15 10:02	11/09/15 20:27	1
Tetrachloro-m-xylene	81		10 - 150				11/04/15 10:02	11/09/15 20:27	1

# QC Sample Results

Client: Mabbett & Associates, Inc.  
Project/Site: Bodycote Heat Treat Building

TestAmerica Job ID: 490-90875-1  
SDG: 1998002.333

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 490-295482/1-A

Matrix: Water

Analysis Batch: 296843

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 295482

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.500		ug/L		11/04/15 10:02	11/09/15 16:32	1
PCB-1221	ND		0.500		ug/L		11/04/15 10:02	11/09/15 16:32	1
PCB-1232	ND		0.500		ug/L		11/04/15 10:02	11/09/15 16:32	1
PCB-1242	ND		0.500		ug/L		11/04/15 10:02	11/09/15 16:32	1
PCB-1248	ND		0.500		ug/L		11/04/15 10:02	11/09/15 16:32	1
PCB-1254	ND		0.500		ug/L		11/04/15 10:02	11/09/15 16:32	1
PCB-1260	ND		0.500		ug/L		11/04/15 10:02	11/09/15 16:32	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	55		10 - 150	11/04/15 10:02	11/09/15 16:32	1
Tetrachloro-m-xylene	66		10 - 150	11/04/15 10:02	11/09/15 16:32	1

Lab Sample ID: LCS 490-295482/2-A

Matrix: Water

Analysis Batch: 296843

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 295482

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
PCB-1016	4.00	3.972		ug/L		99	23 - 139
PCB-1260	4.00	2.964		ug/L		74	36 - 144

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl (Surr)	85		10 - 150
Tetrachloro-m-xylene	88		10 - 150

TestAmerica Nashville

## QC Association Summary

Client: Mabbett & Associates, Inc.  
Project/Site: Bodycote Heat Treat Building

TestAmerica Job ID: 490-90875-1  
SDG: 1998002.333

### GC Semi VOA

#### Prep Batch: 295482

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-90875-1	MCA-5-102815	Total/NA	Ground Water	3510C	
490-90875-2	M&A-104-102815	Total/NA	Ground Water	3510C	
490-90875-3	M&A-110-102815	Total/NA	Ground Water	3510C	
490-90875-4	M&A-111-102815	Total/NA	Ground Water	3510C	
490-90875-5	M&A-112-102815	Total/NA	Ground Water	3510C	
490-90875-6	M&A-113-102815	Total/NA	Ground Water	3510C	
490-90875-7	M&A-114-102815	Total/NA	Ground Water	3510C	
490-90875-8	M&A-116-102815	Total/NA	Ground Water	3510C	
490-90875-9	M&A-121-102815	Total/NA	Ground Water	3510C	
490-90875-10	M&A-122-102815	Total/NA	Ground Water	3510C	
490-90875-11	M&A-124-102815	Total/NA	Ground Water	3510C	
490-90875-12	M&A-126-102915	Total/NA	Ground Water	3510C	
490-90875-13	M&A-301-102915	Total/NA	Ground Water	3510C	
490-90875-14	DUP-02-102915	Total/NA	Ground Water	3510C	
LCS 490-295482/2-A	Lab Control Sample	Total/NA	Water	3510C	
MB 490-295482/1-A	Method Blank	Total/NA	Water	3510C	

#### Analysis Batch: 296843

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-90875-1	MCA-5-102815	Total/NA	Ground Water	8082A	295482
490-90875-2	M&A-104-102815	Total/NA	Ground Water	8082A	295482
490-90875-3	M&A-110-102815	Total/NA	Ground Water	8082A	295482
490-90875-4	M&A-111-102815	Total/NA	Ground Water	8082A	295482
490-90875-5	M&A-112-102815	Total/NA	Ground Water	8082A	295482
490-90875-6	M&A-113-102815	Total/NA	Ground Water	8082A	295482
490-90875-7	M&A-114-102815	Total/NA	Ground Water	8082A	295482
490-90875-8	M&A-116-102815	Total/NA	Ground Water	8082A	295482
490-90875-9	M&A-121-102815	Total/NA	Ground Water	8082A	295482
490-90875-10	M&A-122-102815	Total/NA	Ground Water	8082A	295482
490-90875-11	M&A-124-102815	Total/NA	Ground Water	8082A	295482
490-90875-12	M&A-126-102915	Total/NA	Ground Water	8082A	295482
490-90875-13	M&A-301-102915	Total/NA	Ground Water	8082A	295482
490-90875-14	DUP-02-102915	Total/NA	Ground Water	8082A	295482
LCS 490-295482/2-A	Lab Control Sample	Total/NA	Water	8082A	295482
MB 490-295482/1-A	Method Blank	Total/NA	Water	8082A	295482

# Lab Chronicle

Client: Mabbett & Associates, Inc.  
Project/Site: Bodycote Heat Treat Building

TestAmerica Job ID: 490-90875-1  
SDG: 1998002.333

**Client Sample ID: MCA-5-102815**

**Lab Sample ID: 490-90875-1**

Date Collected: 10/28/15 14:15

Matrix: Ground Water

Date Received: 10/31/15 10:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			240 mL	1 mL	295482	11/04/15 10:02	LDC	TAL NSH
Total/NA	Analysis	8082A		1	240 mL	1 mL	296843	11/09/15 17:04	MGH	TAL NSH

**Client Sample ID: M&A-104-102815**

**Lab Sample ID: 490-90875-2**

Date Collected: 10/28/15 15:35

Matrix: Ground Water

Date Received: 10/31/15 10:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			250 mL	1 mL	295482	11/04/15 10:02	LDC	TAL NSH
Total/NA	Analysis	8082A		1	250 mL	1 mL	296843	11/09/15 17:19	MGH	TAL NSH

**Client Sample ID: M&A-110-102815**

**Lab Sample ID: 490-90875-3**

Date Collected: 10/28/15 16:15

Matrix: Ground Water

Date Received: 10/31/15 10:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			240 mL	1 mL	295482	11/04/15 10:02	LDC	TAL NSH
Total/NA	Analysis	8082A		1	240 mL	1 mL	296843	11/09/15 17:35	MGH	TAL NSH

**Client Sample ID: M&A-111-102815**

**Lab Sample ID: 490-90875-4**

Date Collected: 10/28/15 16:50

Matrix: Ground Water

Date Received: 10/31/15 10:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			240 mL	1 mL	295482	11/04/15 10:02	LDC	TAL NSH
Total/NA	Analysis	8082A		1	240 mL	1 mL	296843	11/09/15 17:50	MGH	TAL NSH

**Client Sample ID: M&A-112-102815**

**Lab Sample ID: 490-90875-5**

Date Collected: 10/28/15 16:45

Matrix: Ground Water

Date Received: 10/31/15 10:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			240 mL	1 mL	295482	11/04/15 10:02	LDC	TAL NSH
Total/NA	Analysis	8082A		1	240 mL	1 mL	296843	11/09/15 18:06	MGH	TAL NSH

**Client Sample ID: M&A-113-102815**

**Lab Sample ID: 490-90875-6**

Date Collected: 10/28/15 16:00

Matrix: Ground Water

Date Received: 10/31/15 10:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			210 mL	1 mL	295482	11/04/15 10:02	LDC	TAL NSH
Total/NA	Analysis	8082A		10	210 mL	1 mL	296843	11/09/15 23:19	MGH	TAL NSH

TestAmerica Nashville

# Lab Chronicle

Client: Mabbett & Associates, Inc.  
Project/Site: Bodycote Heat Treat Building

TestAmerica Job ID: 490-90875-1  
SDG: 1998002.333

**Client Sample ID: M&A-114-102815**

**Lab Sample ID: 490-90875-7**

Date Collected: 10/28/15 14:35

Matrix: Ground Water

Date Received: 10/31/15 10:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			210 mL	1 mL	295482	11/04/15 10:02	LDC	TAL NSH
Total/NA	Analysis	8082A		1	210 mL	1 mL	296843	11/09/15 18:37	MGH	TAL NSH

**Client Sample ID: M&A-116-102815**

**Lab Sample ID: 490-90875-8**

Date Collected: 10/28/15 13:45

Matrix: Ground Water

Date Received: 10/31/15 10:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			240 mL	1 mL	295482	11/04/15 10:02	LDC	TAL NSH
Total/NA	Analysis	8082A		1	240 mL	1 mL	296843	11/09/15 18:53	MGH	TAL NSH

**Client Sample ID: M&A-121-102815**

**Lab Sample ID: 490-90875-9**

Date Collected: 10/28/15 14:10

Matrix: Ground Water

Date Received: 10/31/15 10:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			240 mL	1 mL	295482	11/04/15 10:02	LDC	TAL NSH
Total/NA	Analysis	8082A		1	240 mL	1 mL	296843	11/09/15 19:09	MGH	TAL NSH

**Client Sample ID: M&A-122-102815**

**Lab Sample ID: 490-90875-10**

Date Collected: 10/28/15 17:40

Matrix: Ground Water

Date Received: 10/31/15 10:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			240 mL	1 mL	295482	11/04/15 10:02	LDC	TAL NSH
Total/NA	Analysis	8082A		1	240 mL	1 mL	296843	11/09/15 19:24	MGH	TAL NSH

**Client Sample ID: M&A-124-102815**

**Lab Sample ID: 490-90875-11**

Date Collected: 10/28/15 15:50

Matrix: Ground Water

Date Received: 10/31/15 10:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			240 mL	1 mL	295482	11/04/15 10:02	LDC	TAL NSH
Total/NA	Analysis	8082A		1	240 mL	1 mL	296843	11/09/15 19:40	MGH	TAL NSH

**Client Sample ID: M&A-126-102915**

**Lab Sample ID: 490-90875-12**

Date Collected: 10/29/15 09:15

Matrix: Ground Water

Date Received: 10/31/15 10:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			240 mL	1 mL	295482	11/04/15 10:02	LDC	TAL NSH
Total/NA	Analysis	8082A		1	240 mL	1 mL	296843	11/09/15 19:56	MGH	TAL NSH

TestAmerica Nashville

## Lab Chronicle

Client: Mabbett & Associates, Inc.  
Project/Site: Bodycote Heat Treat Building

TestAmerica Job ID: 490-90875-1  
SDG: 1998002.333

**Client Sample ID: M&A-301-102915**

**Lab Sample ID: 490-90875-13**

Date Collected: 10/29/15 08:25

Matrix: Ground Water

Date Received: 10/31/15 10:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			230 mL	1 mL	295482	11/04/15 10:02	LDC	TAL NSH
Total/NA	Analysis	8082A		1	230 mL	1 mL	296843	11/09/15 20:11	MGH	TAL NSH

**Client Sample ID: DUP-02-102915**

**Lab Sample ID: 490-90875-14**

Date Collected: 10/29/15 08:00

Matrix: Ground Water

Date Received: 10/31/15 10:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			240 mL	1 mL	295482	11/04/15 10:02	LDC	TAL NSH
Total/NA	Analysis	8082A		1	240 mL	1 mL	296843	11/09/15 20:27	MGH	TAL NSH

### Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177



## Method Summary

Client: Mabbett & Associates, Inc.  
Project/Site: Bodycote Heat Treat Building

TestAmerica Job ID: 490-90875-1  
SDG: 1998002.333

Method	Method Description	Protocol	Laboratory
8082A	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL NSH

### Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

### Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

## Certification Summary

Client: Mabbett & Associates, Inc.  
Project/Site: Bodycote Heat Treat Building

TestAmerica Job ID: 490-90875-1  
SDG: 1998002.333

### Laboratory: TestAmerica Nashville

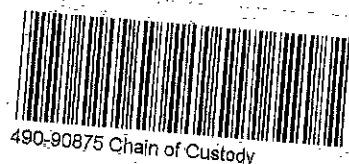
The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Illinois	NELAP	5	200010	12-09-15 *

\* Certification renewal pending - certification considered valid.

TestAmerica Nashville

## COOLER RECEIPT FORM



Cooler Received/Opened On 10/30/2015 @ 0945 <sup>1045</sup> ~~10/31/15~~

1. Tracking # 3033 (last 4 digits, FedEx)

Courier: FedEx IR Gun ID 18290455

2. Temperature of rep. sample or temp blank when opened: 2.0 Degrees Celsius

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO NA

4. Were custody seals on outside of cooler? YES...NO...NA

If yes, how many and where: (1) Front

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (initial) mon

7. Were custody seals on containers: YES NO and Intact YES...NO...NA

Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES...NO...NA

b. Was there any observable headspace present in any VOA vial? YES...NO...NA

14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence # 1

I certify that I unloaded the cooler and answered questions 7-14 (initial) mon

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA

b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) mon

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial) mon

I certify that I attached a label with the unique LIMS number to each container (initial) mon

21. Were there Non-Conformance issues at login? YES...NO... Was a NCM generated? YES...NO...# 1

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

TestAmerica Laboratories, Inc.

Client Contact <b>Mabbett Associates</b> 5 Airport Circle Bedford MA		Project Manager: <b>C. Mabbett</b> Tel/Fax: <b>781 215 6050</b>		Site Contact: <b>M. Horton</b> Lab Contact: <b>K. Hayes</b>		Date: <b>10/29/15</b> Carrier: <b>Fed Ex</b>		COC No: <b>1</b> of <b>2</b> COCs		
Analysis Turnaround Time <input type="checkbox"/> CALENDAR DAYS <input type="checkbox"/> WORKING DAYS		TAT if different from Below <input type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day		Filtered Sample (Y/N) Perform MS/MSD (Y/N) <b>PCBs</b>				Sampler:		
Project Name: <b>BODYCORE Heat-Treat Building</b> Site: PO # <b>5181</b>		For Lab Use Only: Walk-in Client: Lab Sampling: <b>Loc: 490</b> <b>90875</b> Job / SDG No.:								
Sample Identification		Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Sample Specific Notes:			
<b>MCA-5-102815</b>		<b>10/28/15</b>	<b>1415</b>	<b>G</b>	<b>GW</b>	<b>2</b>	<b>1</b>			
<b>MCA-104-102815</b>		<b>10/28/15</b>	<b>1535</b>	<b>G</b>	<b>GW</b>	<b>2</b>	<b>2</b>			
<b>MCA-110-102815</b>		<b>10/28/15</b>	<b>1615</b>	<b>G</b>	<b>GW</b>	<b>2</b>	<b>3</b>			
<b>MCA-111-102815</b>		<b>10/28/15</b>	<b>1630</b>	<b>G</b>	<b>GW</b>	<b>2</b>	<b>4</b>			
<b>MCA-112-102815</b>		<b>10/28/15</b>	<b>1645</b>	<b>G</b>	<b>GW</b>	<b>2</b>	<b>5</b>			
<b>MCA-113-102815</b>		<b>10/28/15</b>	<b>1600</b>	<b>G</b>	<b>GW</b>	<b>2</b>	<b>6</b> <b>TCE OIL CONTAMINATED</b>			
<b>MCA-114-102815</b>		<b>10/28/15</b>	<b>1435</b>	<b>G</b>	<b>GW</b>	<b>2</b>	<b>7</b>			
<b>MCA-116-102815</b>		<b>10/28/15</b>	<b>1345</b>	<b>G</b>	<b>GW</b>	<b>2</b>	<b>8</b>			
<b>MCA-121-102815</b>		<b>10/28/15</b>	<b>1410</b>	<b>G</b>	<b>GW</b>	<b>2</b>	<b>9</b>			
<b>MCA-122-102815</b>		<b>10/28/15</b>	<b>1740</b>	<b>G</b>	<b>GW</b>	<b>2</b>	<b>10</b>			
<b>MCA-124-102815</b>		<b>10/28/15</b>	<b>1550</b>	<b>G</b>	<b>GW</b>	<b>2</b>	<b>11</b>			
<b>MCA-126-102915</b>		<b>10/29/15</b>	<b>0915</b>	<b>G</b>	<b>GW</b>	<b>2</b>	<b>12</b>			
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4= HNO3; 5= NaOH; 6= Other										
Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.							Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)			
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown							<input type="checkbox"/> Return to Client <input type="checkbox"/> Disposal by Lab <input type="checkbox"/> Archive for _____ Months			
Special Instructions/QC Requirements & Comments:  <b>2.2</b>										
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temp. (°C): Obs'd: _____ Corr'd: _____		Therm ID No.:				
Relinquished by: <b>M. Horton</b>		Company: <b>Mabbett</b>		Date/Time: <b>10/29/15 1030</b>		Received by: <b>FedEx</b>		Company: _____		
Relinquished by:		Company:		Date/Time:		Received by:		Company: <b>IPM</b>		
Relinquished by:		Company:		Date/Time:		Received in Laboratory by:		Date/Time: <b>10-30-15 0829 1045</b>		

## Chain of Custody Record

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:[illegible]

Form No. CA-C-WI-002, Rev. 4.6, dated 09/02/2015

11/13/2015

Page 29 of 30

## Login Sample Receipt Checklist

Client: Mabbett & Associates, Inc.

Job Number: 490-90875-1

SDG Number: 1998002.333

Login Number: 90875

List Number: 1

Creator: McBride, Mike

List Source: TestAmerica Nashville

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	